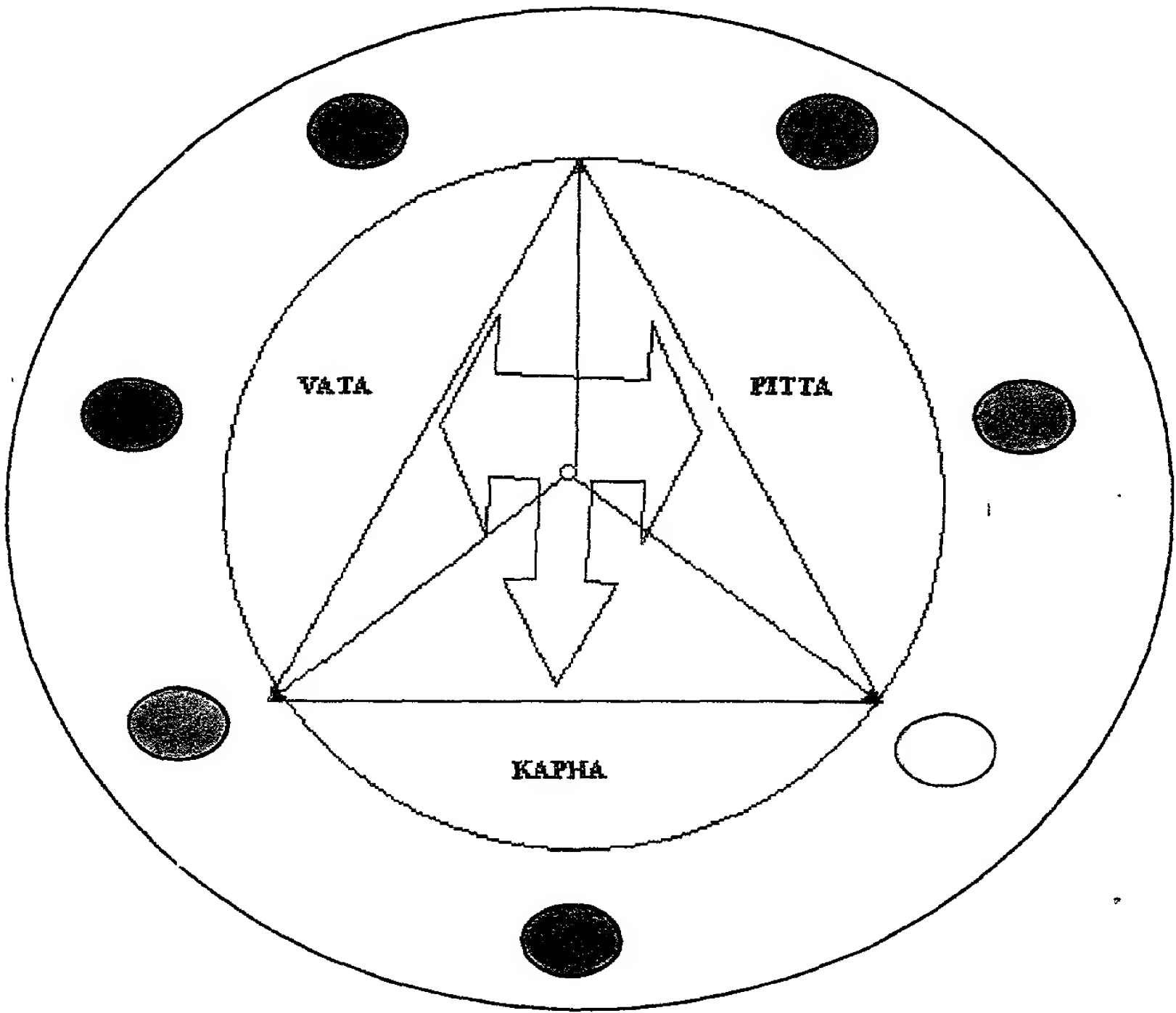




Figure 2

Relation of colors with humors

VATA	KAPHA	PITTA

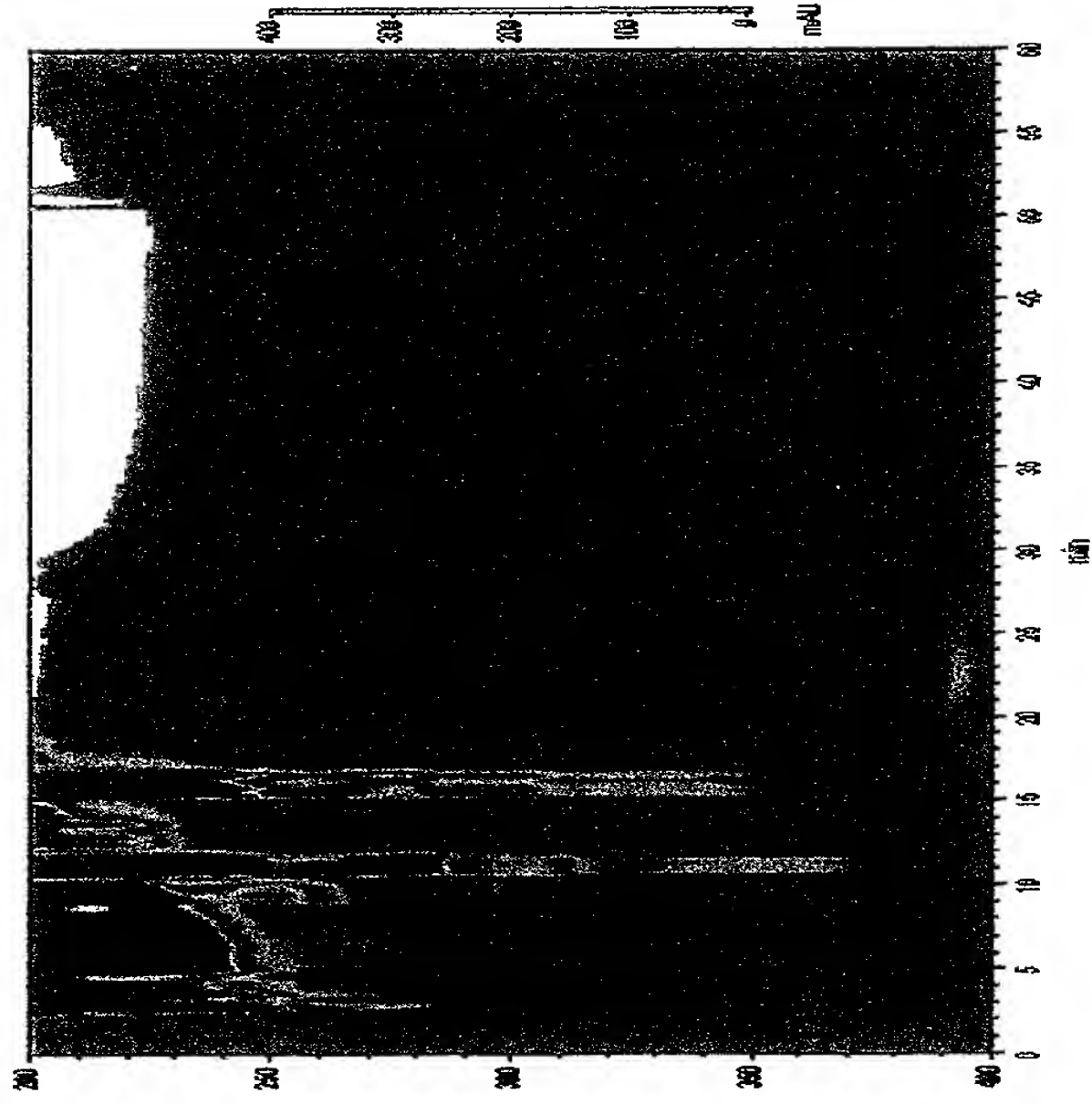


SHILAJIT EXAMPLE

6/1

Figure 3

## THE SHILAJIT EXAMPLE



SHILAJIT

GOOD BY EFFICACY

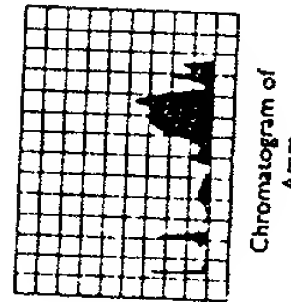
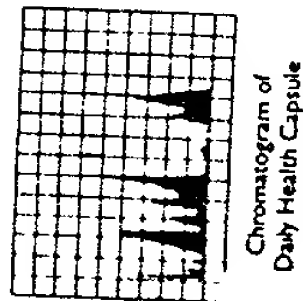


SHILAJIT

POOR BY EFFICACY

Herbal formulations with the same ingredients may differ substantially in safety and efficacy depending on the quality and processing of the herbs. Careful selection of herbs, stringent quality control and **Chromatographic fingerprinting** ensure that the final product delivers the same benefits that have been proven in clinical studies.

Each **Ayurvedic CONCEPTS** formula represents the results of subjecting ancient Ayurvedic knowledge to rigorous modern research and scientific analysis. These products are manufactured according to the rigid standards of modern pharmaceutical technology.



Store in a cool, dry place.  
Keep out of the reach of children.

Research expertise by:  
**THE HIMALAYA DRUG CO.**  
MAKALI BANGALORE 562 123 (INDIA)  
Enriching Ayurveda Through Research Since 1930

ID-CC-DH 11-X0101

# Ayurvedic CONCEPTS



## Daily Health Capsules

Antistressor • Rejuvenator

Amla • Licorice

• Natural Zinc

60 CAPSULES

### Each capsule contains:

#### Pdfrs.

Amalaki

Garijara

Yashad bhasma

#### Exts.

Amra

Yashti-madhu

Lavanga

Draksha

#### Oil

Godhuma

90 mg

90 mg

1.94 mg

120 mg

25 mg

25 mg

10.50 mg

17.56 mg

#### Dosage:

2 capsules twice a day.

Natural products provide gradual but long-lasting results. Allow several weeks for full benefits.

Mfg Lic. No.: ALIS-83

M.R.P.: Rs. 60.00

(Incl. of all taxes)

Exp.: 3 yrs. from date of Mfg

B.No.: 90702

Mfd.: July 99

Made in India by:

**THE HIMALAYA DRUG CO.**  
MAKALI BANGALORE 562 123 (INDIA)

Relieves stress, mental fatigue. Restores a healthy equilibrium.

Stress has become part of life today.

Continued stress disrupts the immune system leading to chronic fatigue, hypertension.

Pollution and chemicals cause oxidative damage to the body by the release of free radicals, thereby disturbing normal body functions.

Daily Health capsules are non-sedating, rich in anti-oxidant vitamins in the form of Amra and Garijara (vit. A), Amalaki (Amla) (vit. C), and Lavanga (Clove), Draksha (Grapes) and Godhuma (Wheatgerm) oil (vit. E). Yashti-madhu (Licorice) and Yashad bhasma (Natural Zinc) are excellent immune-stimulants that bolster the body's defence mechanism keeping you fit and healthy.

Clinical trials on the product have proved it to be beneficial in the treatment of stress of various origins.

Ayurvedic Proprietary Medicine.

Completely safe. Non-toxic.

**NON-SEDATING.**

The chromatographic fingerprint does not give any clear information about the polarity and conjugative properties of the constituents.



# CHROMATOGRAMS OF A COMMERCIAL TURMERIC POWDER AT AT DIFFERENT WAVELENGTHS (The existing method)

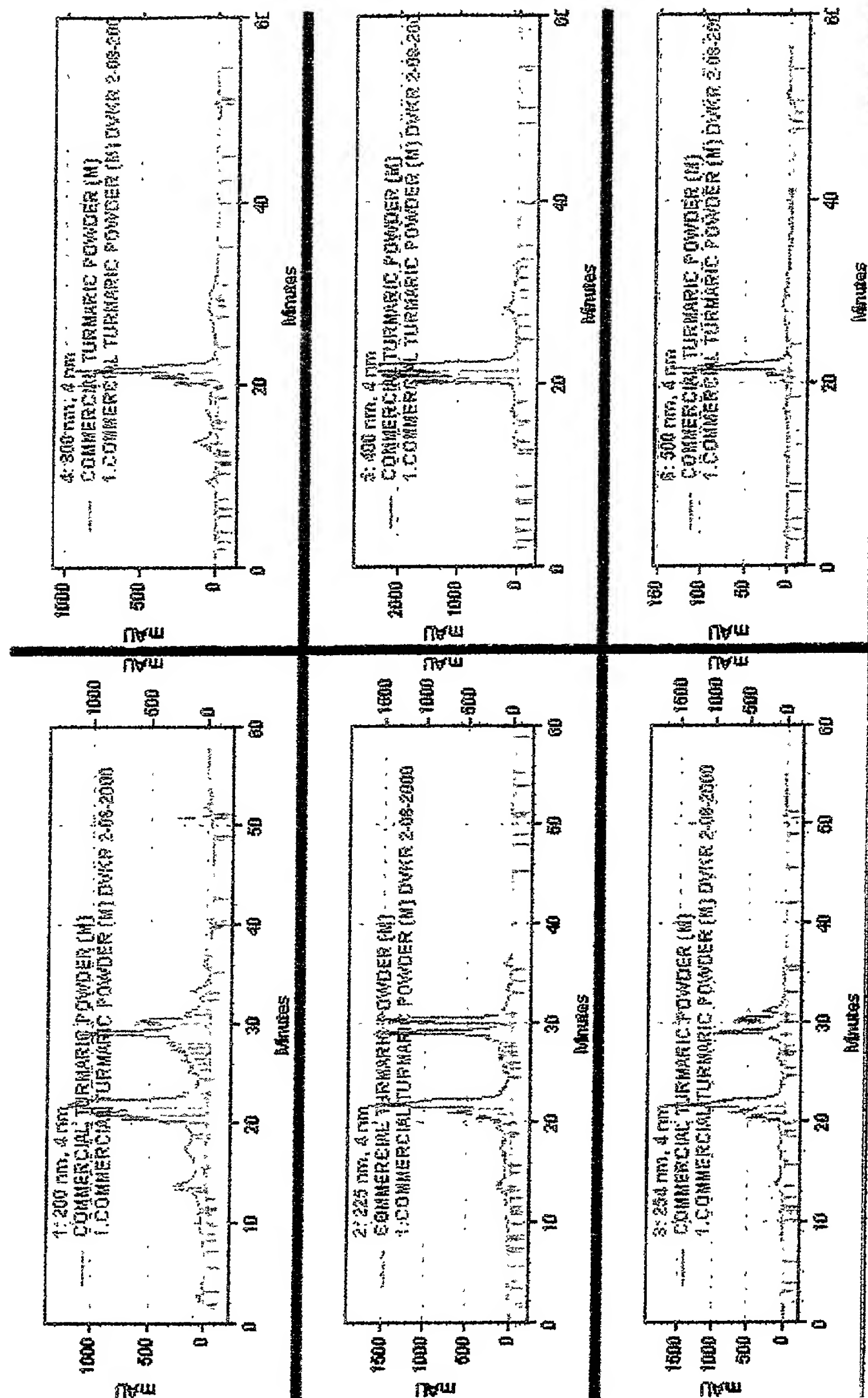
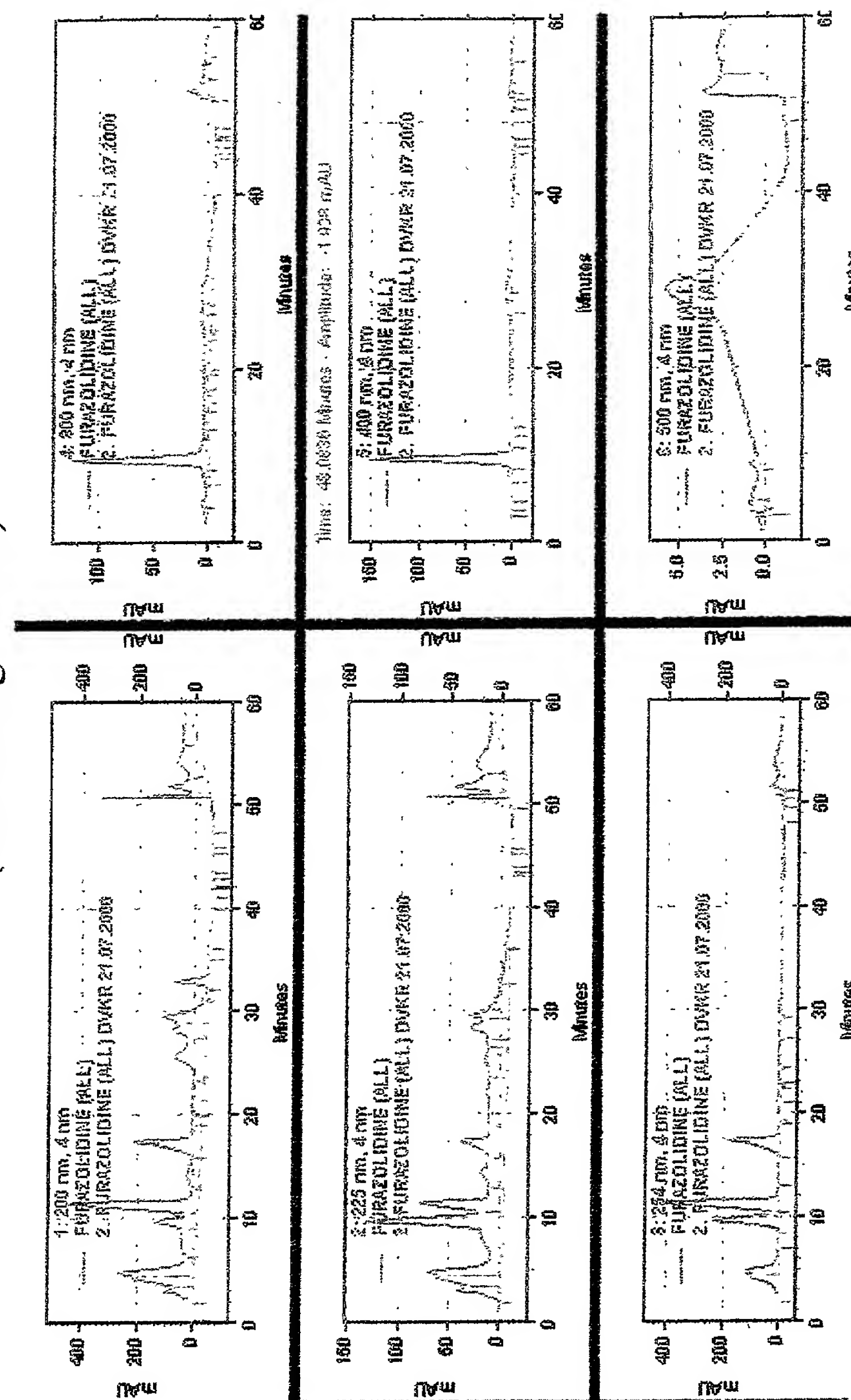


Figure 5

CHROMATOGRAMS OF A FURAZOLIDINE MEDICINE  
AT DIFFERENT WAVELENGTHS

(The existing method)



# CHROMATOGRAMS OF A HERBAL FORMULATION

## KRIMIKUTARA RAS

### AT DIFFERENT WAVELENGTHS

(The existing method)

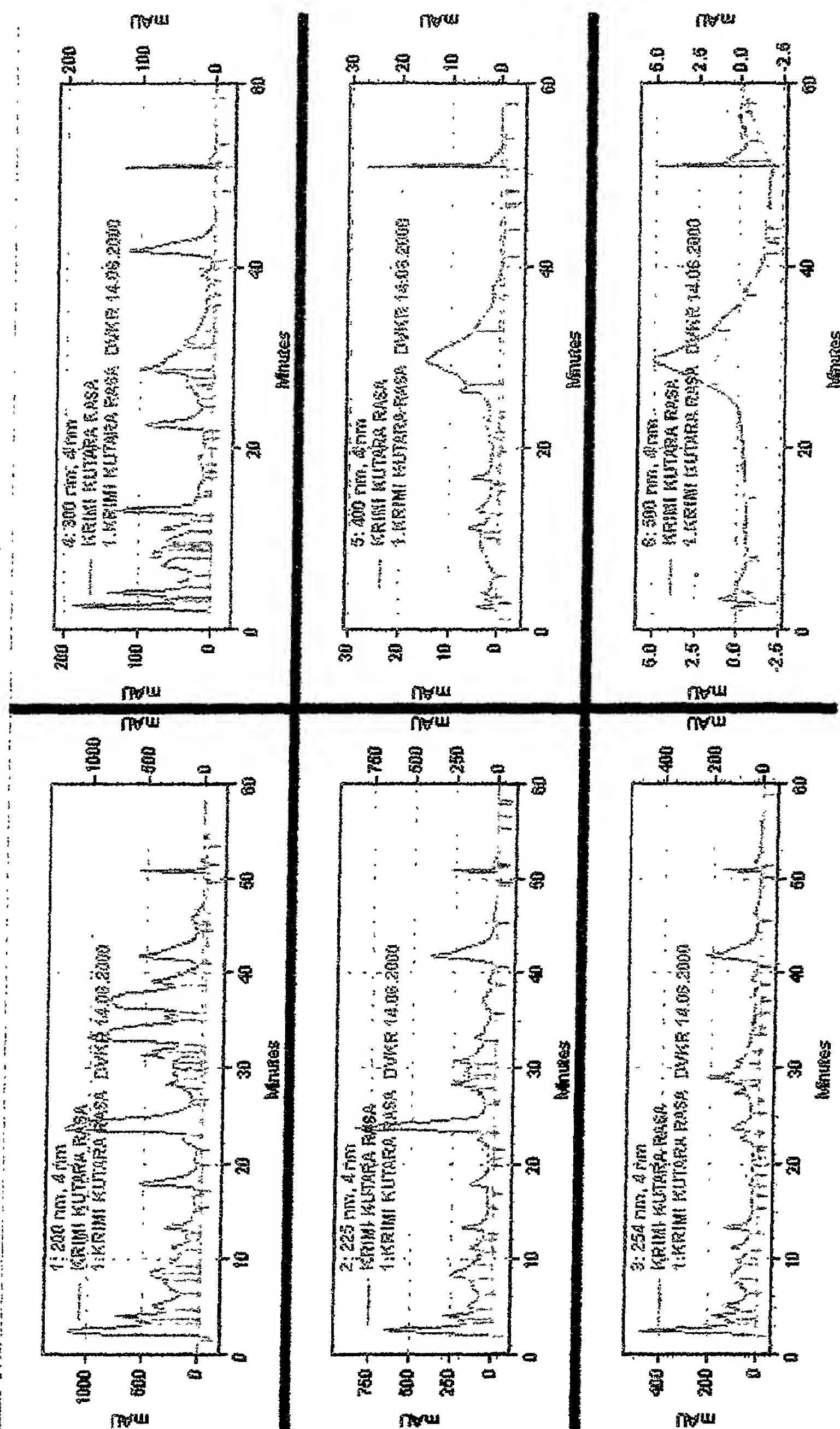


Figure 7

# CHROMATOGRAMS OF A HERBOMINERAL MEDICINE

## SHILAJIT (GOOD BY EFFICACY)

### AT DIFFERENT WAVELENGTHS

(The existing method)

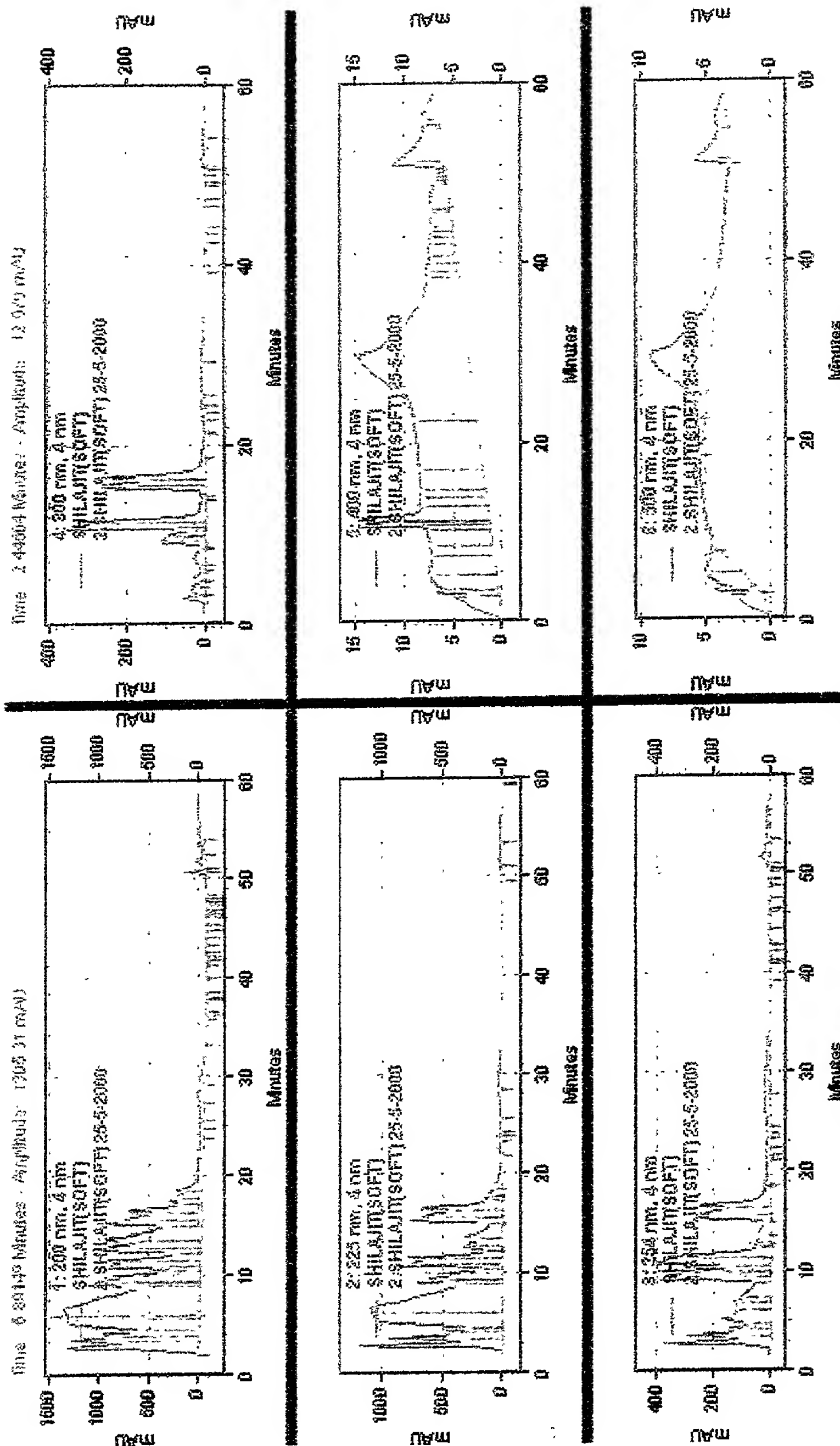


Figure 8

# CHROMATOGRAMS OF A HERBOMINERAL MEDICINE SHILAJIT (POOR BY EFFICACY) AT DIFFERENT WAVELENGTHS

(The existing method)

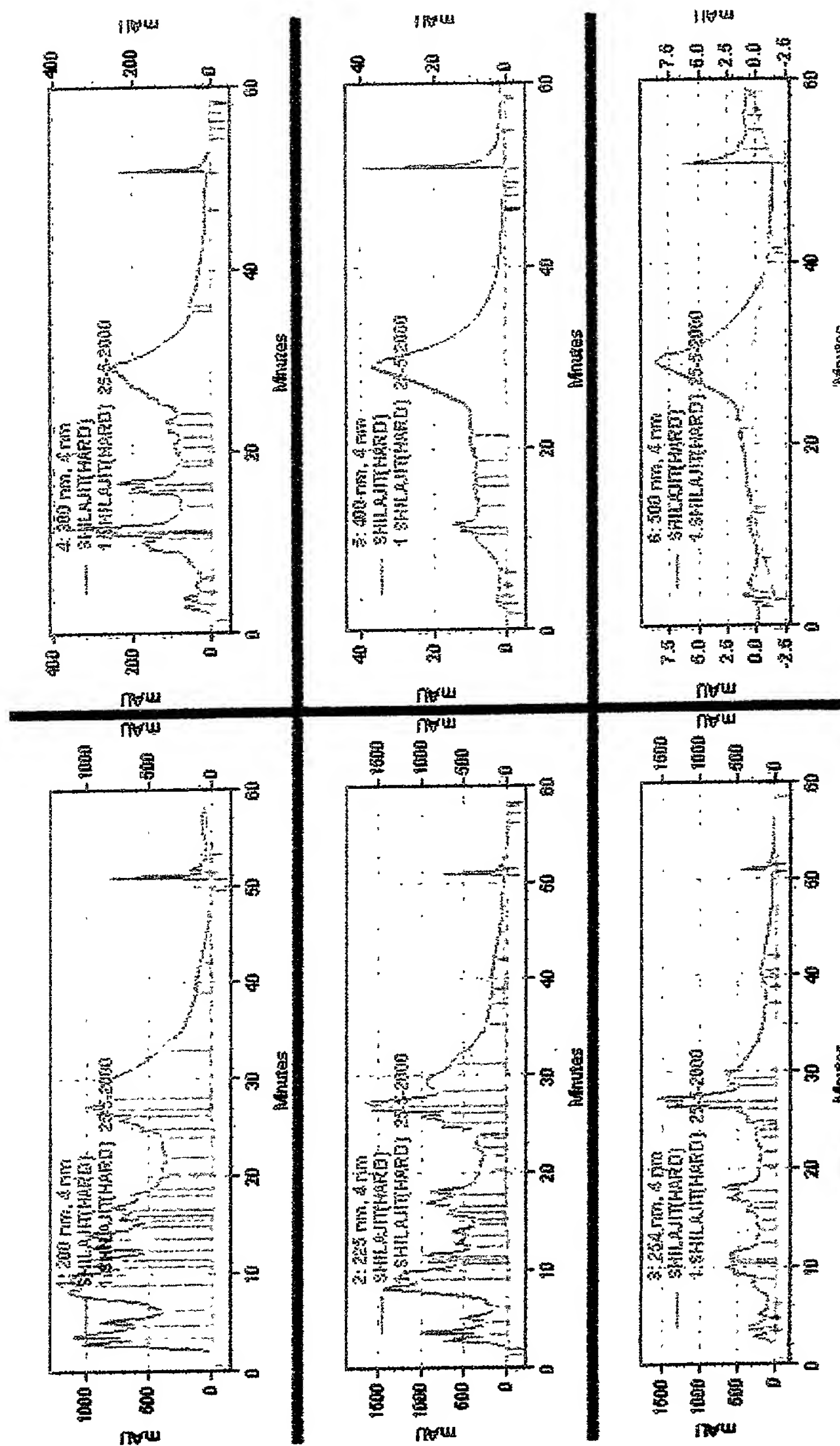


Figure 9

# CHROMATOGRAMS OF A HERBAL FORMULATION

## SURYAVARTI AT DIFFERENT WAVELENGTHS

(The existing method)

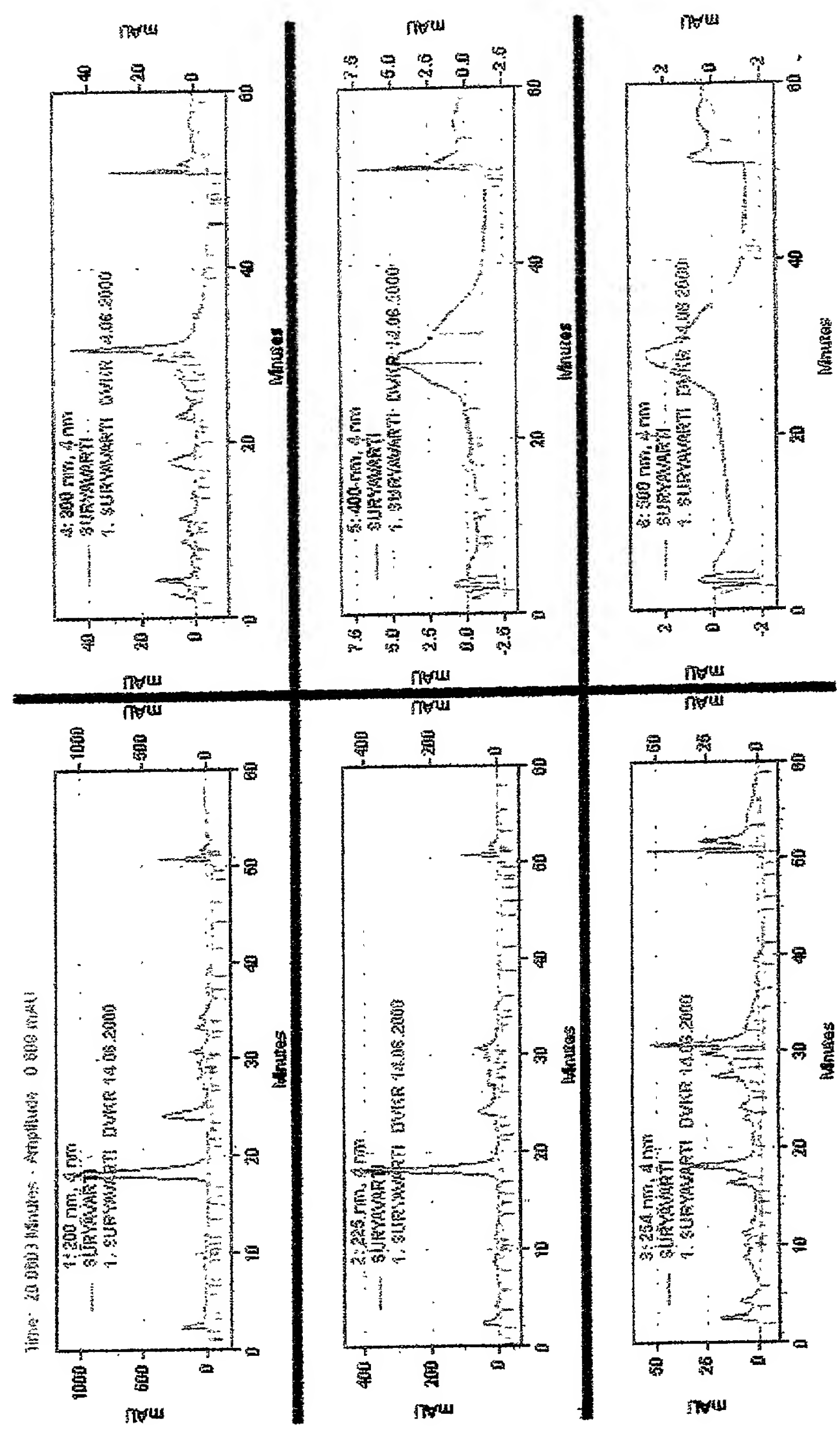


Figure 10



# CHROMATOGRAMS OF A HERBAL FOOD PRODUCT

## TEA

### AT DIFFERENT WAVELENGTHS

(The existing method)

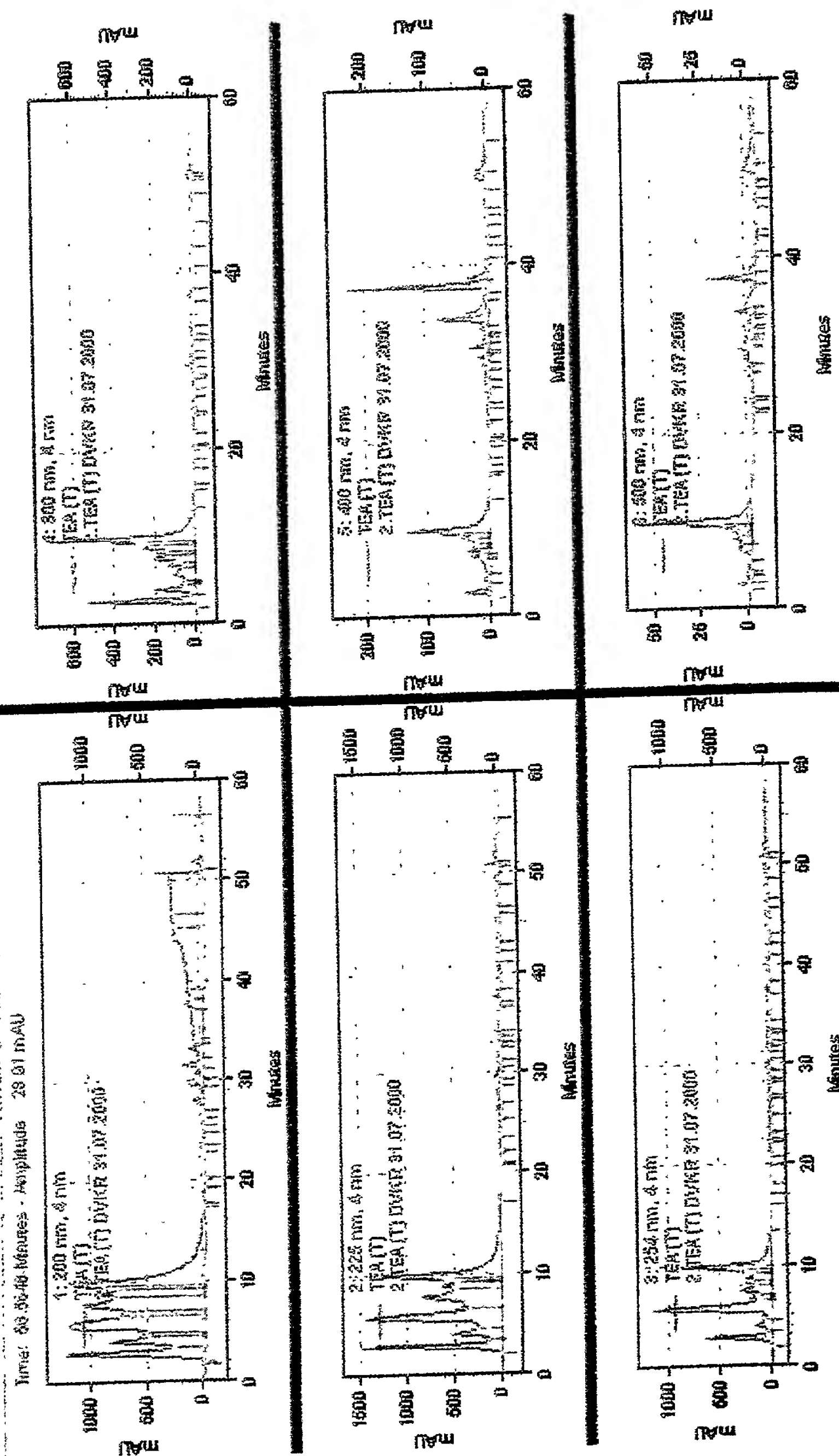


Figure 11

# CHROMATOGRAMS OF A HERBAL FORMULATION TRIKTU (A FORMULATION OF PIPPALI, MARICHA AND SHUNTI)

AT DIFFERENT WAVELENGTHS

(The existing method)

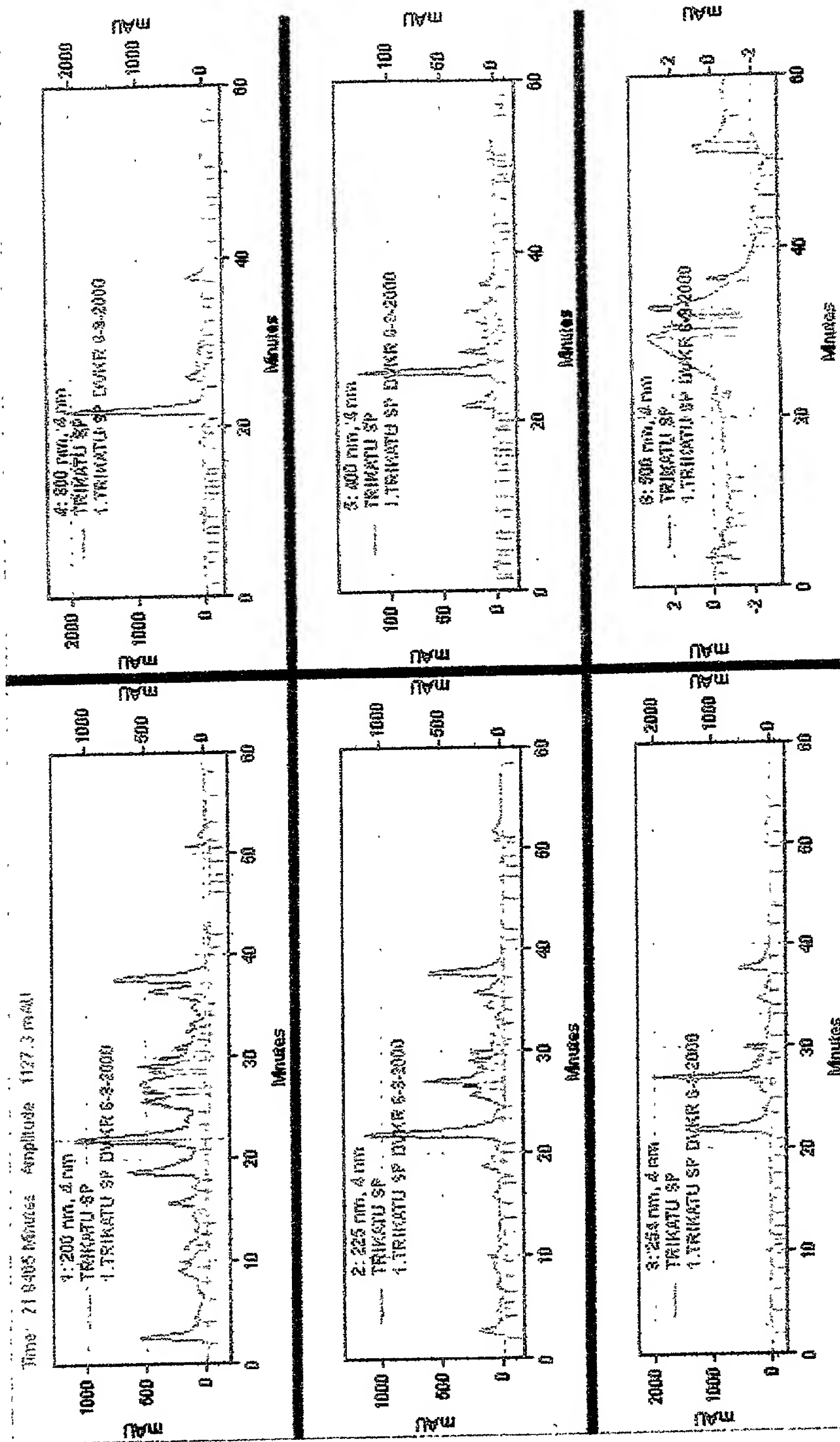


Figure 12



# THE YELLOW MEDICINES

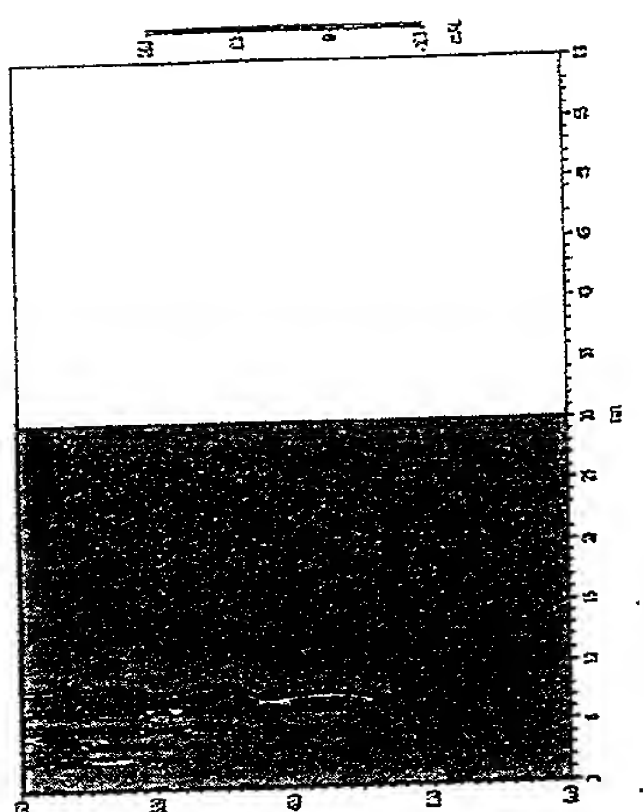
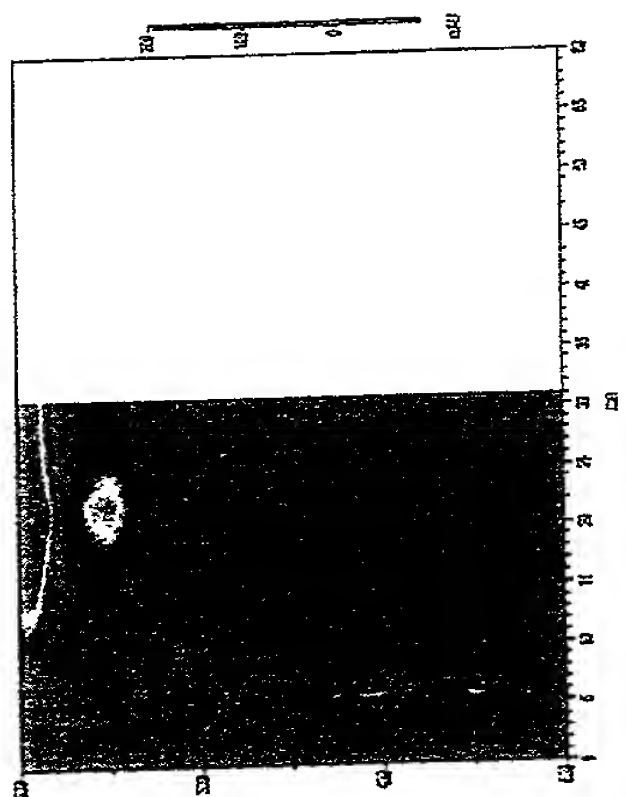
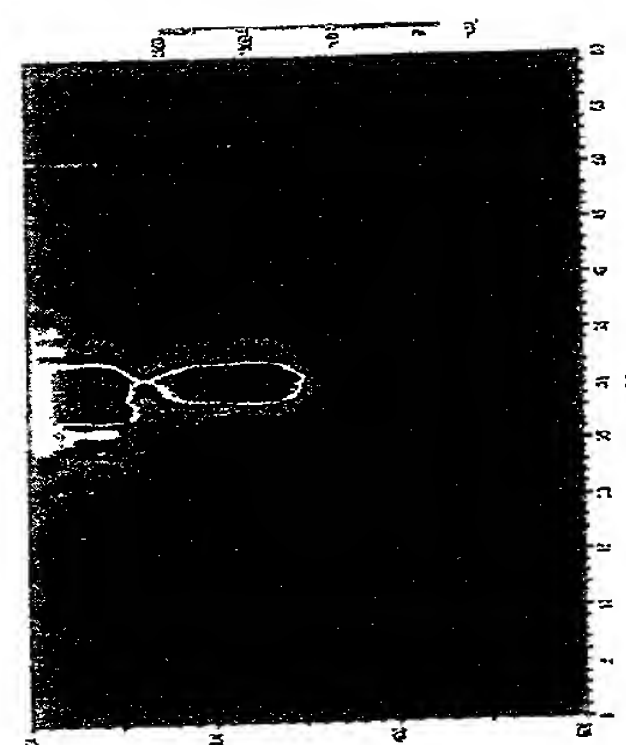
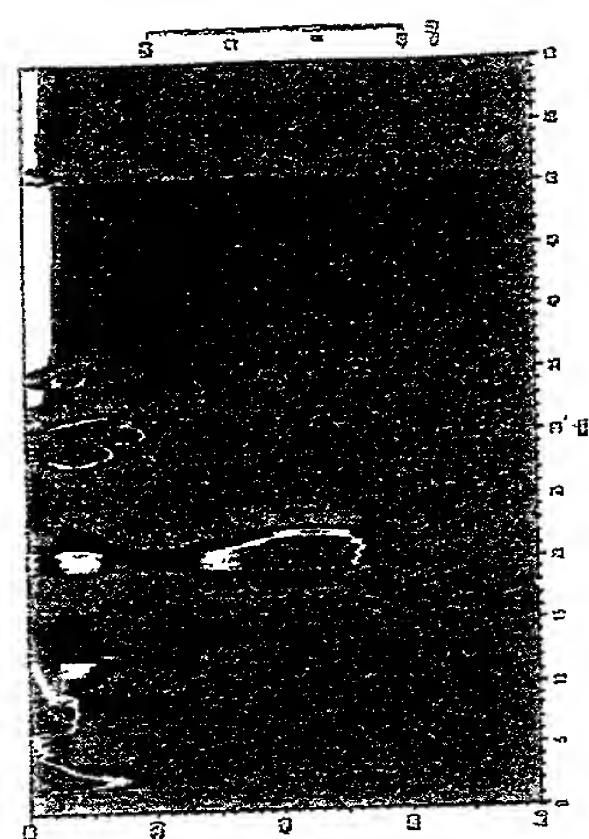
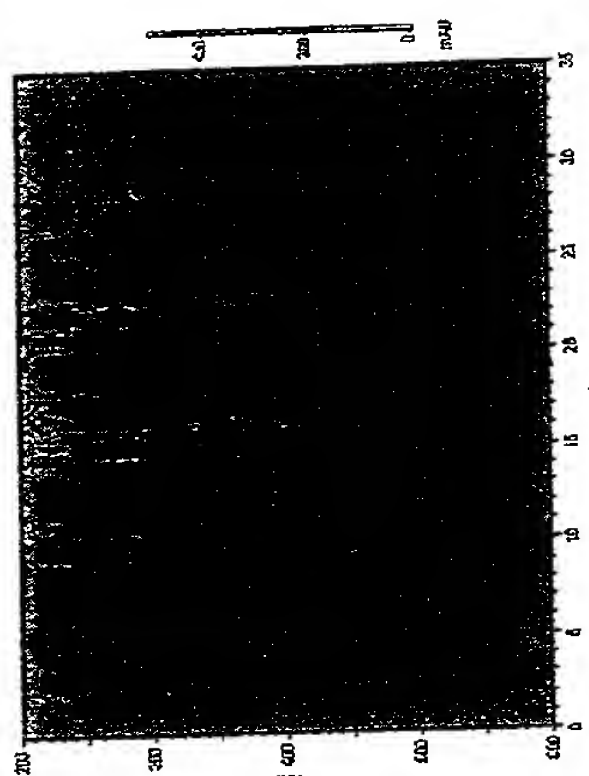
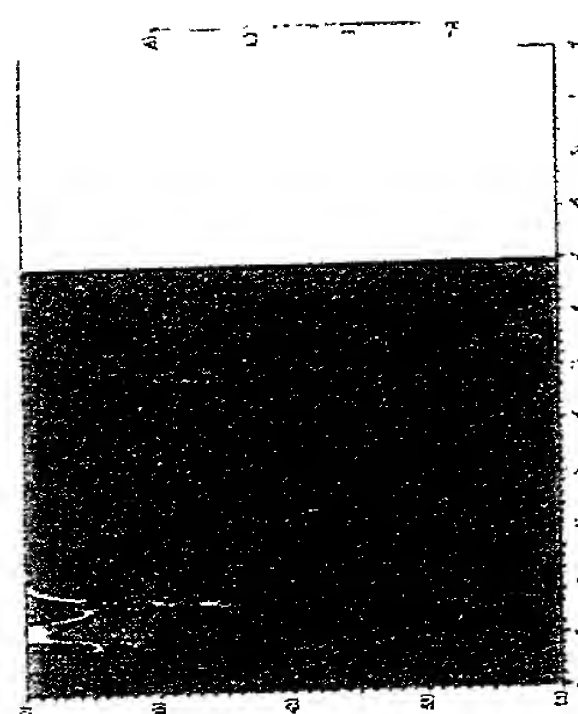


Figure 13

**THE FINGERPRINTS OF CONTRAVERSIAL DRUGS (SANDIGDHA DRAVYAS) SHOWS A CLEAR DIFFERENCE IN APPEARANCE MAKING THE IDENTIFICATION MORE EASY.**

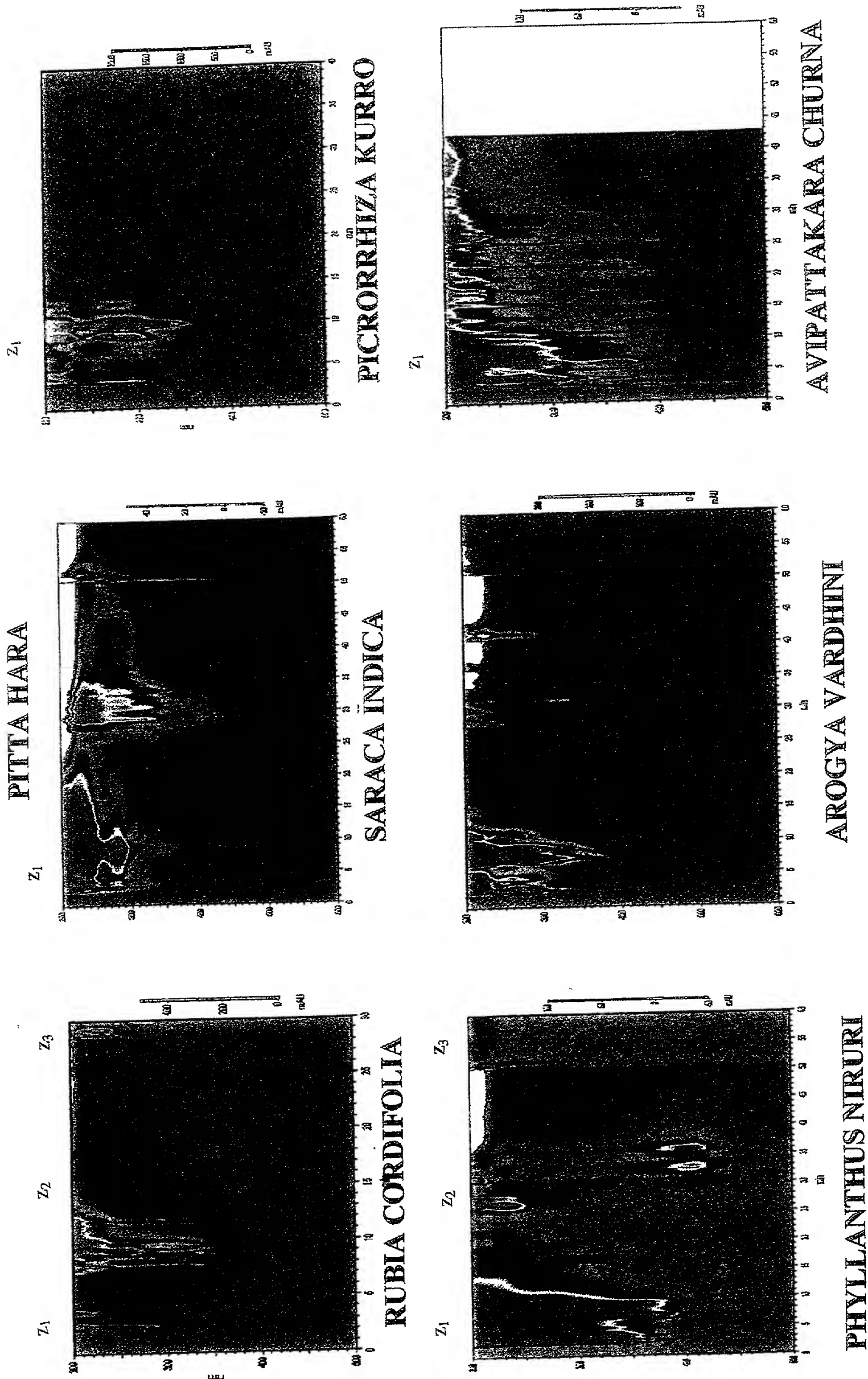
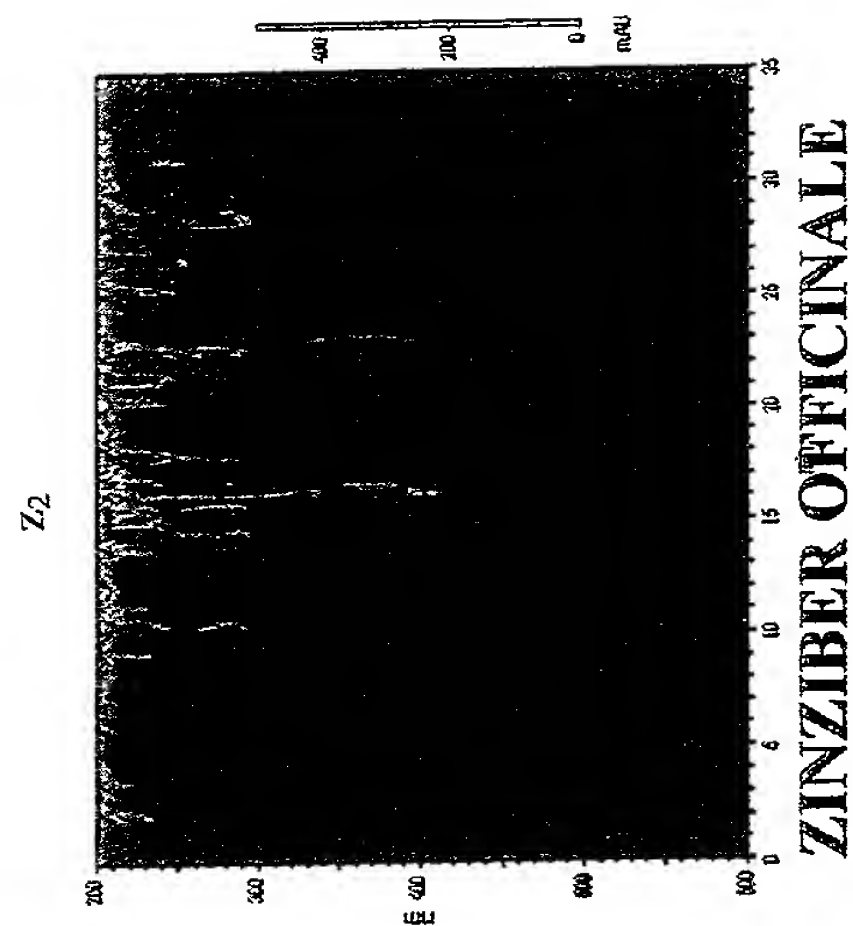
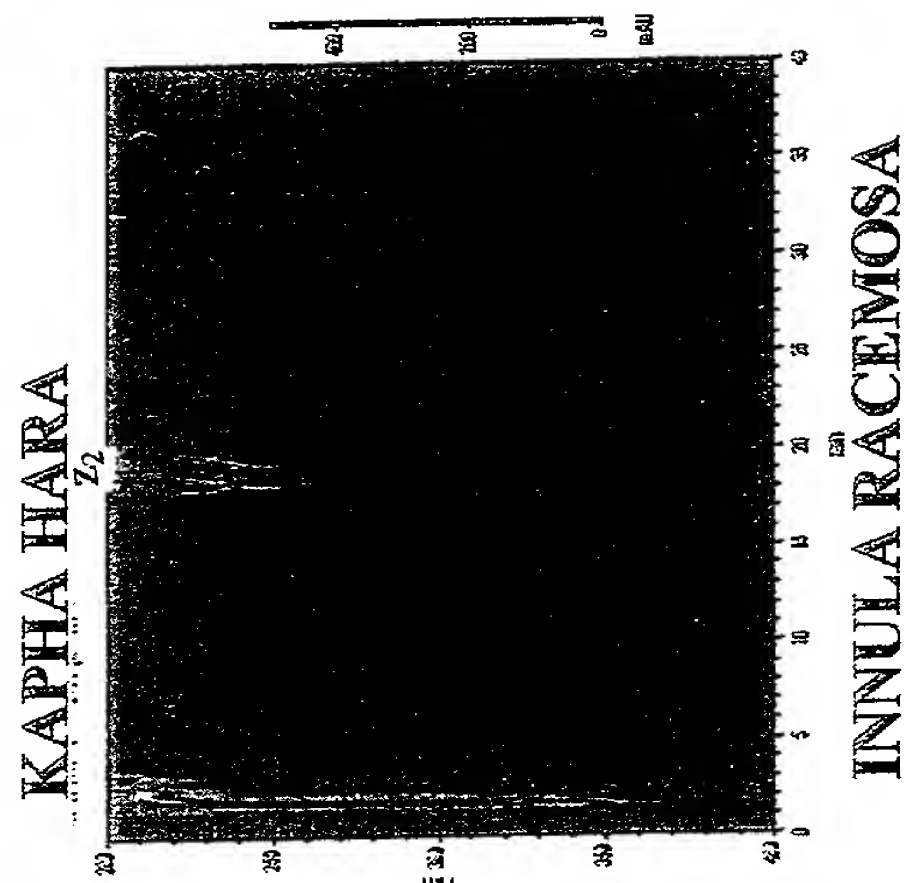
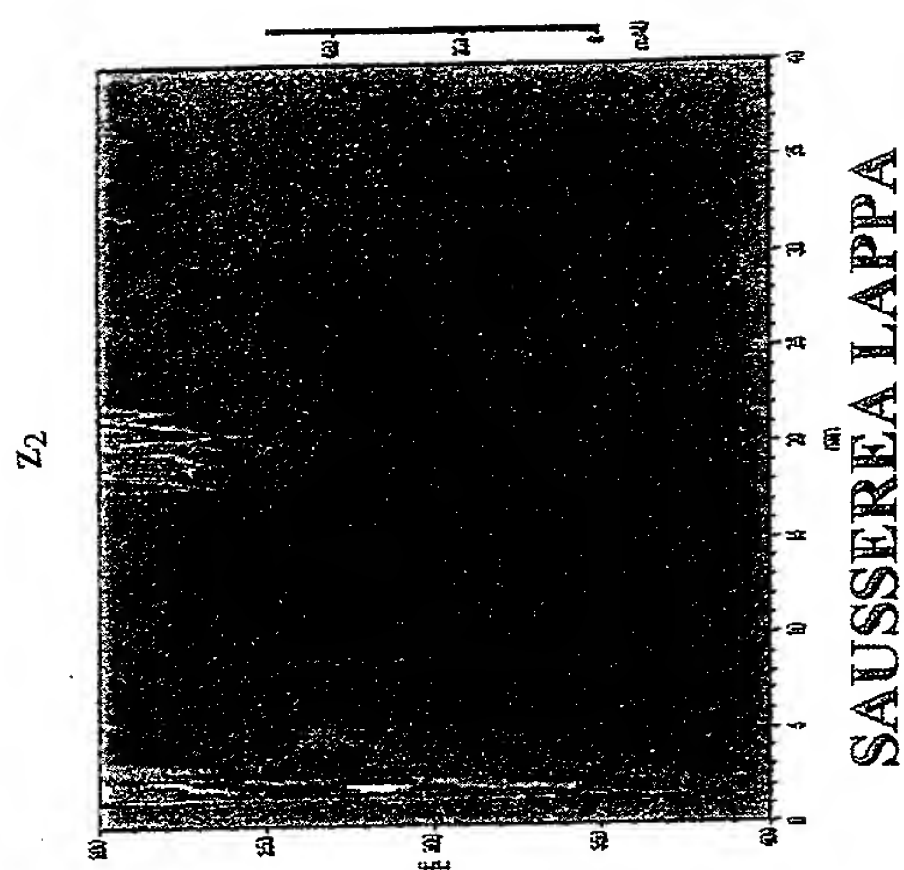
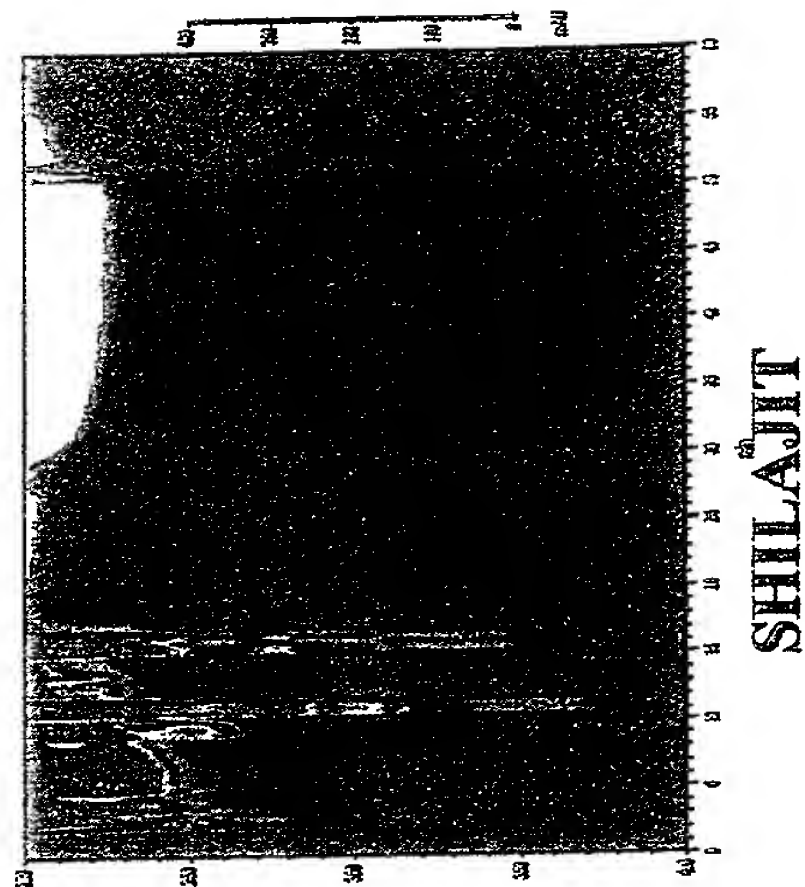
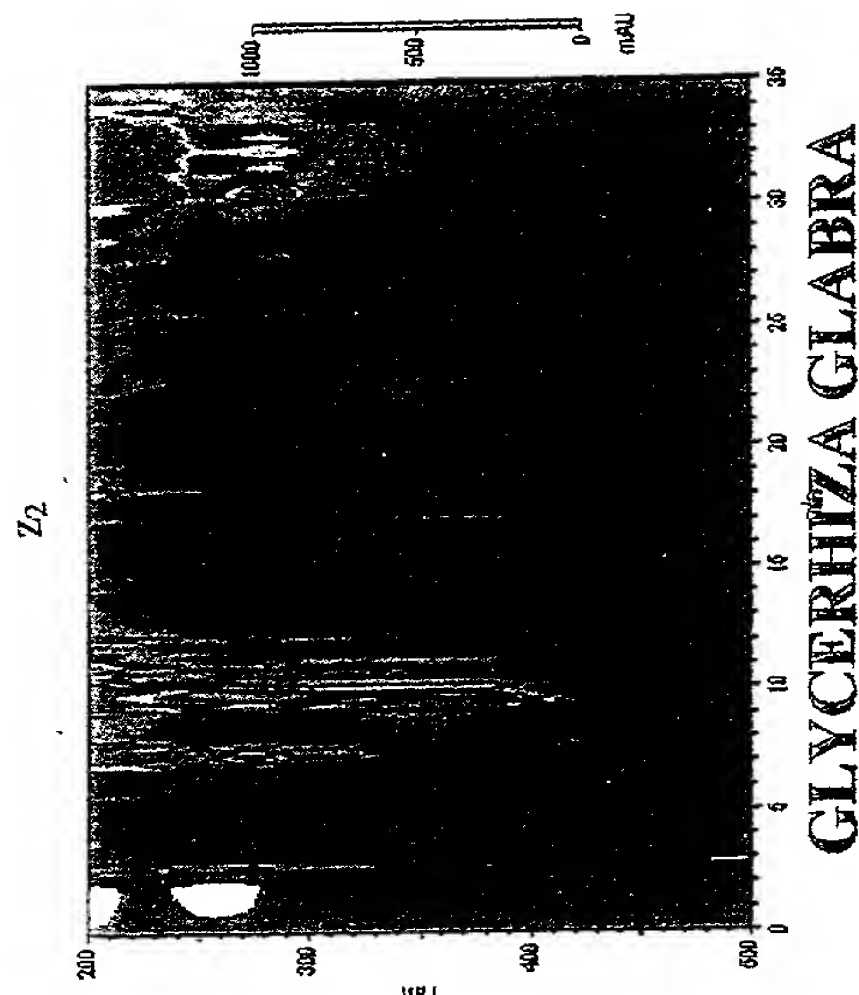
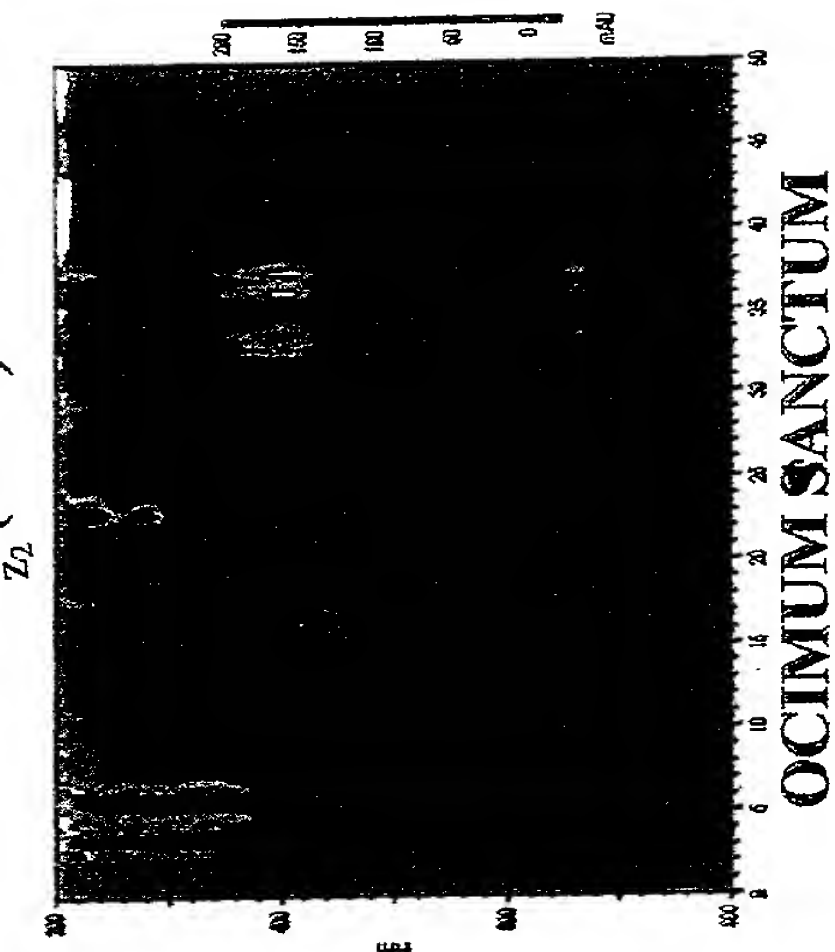


Figure 14

THE PRESENCE OF CONSTITUENTS IN ZONE-I INDICATES THE SAID EFFICACY OF THE MEDICINES



(DRY)



THE PRESENCE OF CONSTITUENTS IN ZONE-2 INDICATES THE SAID EFFICACY OF THE MEDICINES

Figure 15

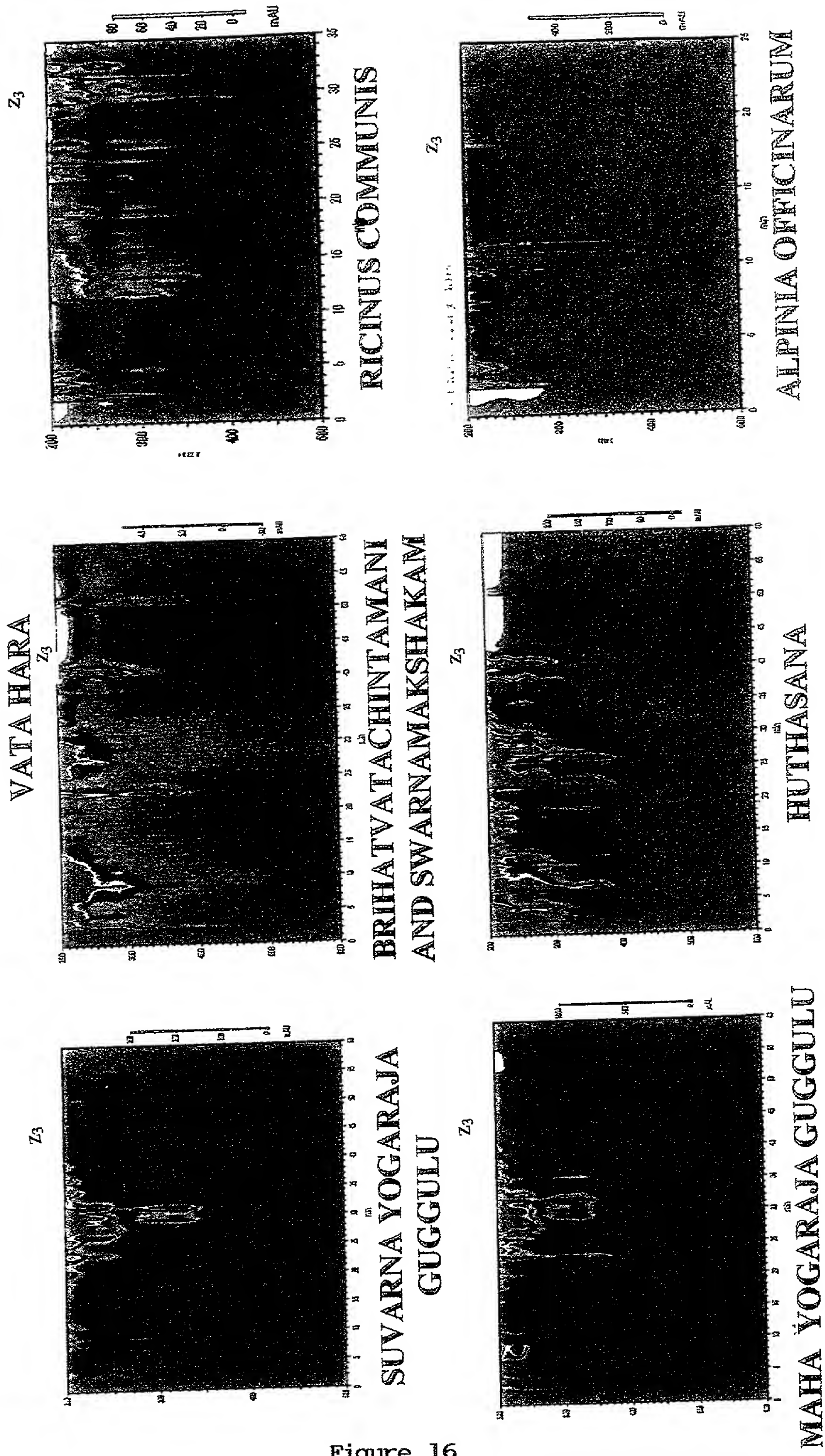


Figure 16

THE PRESENCE OF CONSTITUENTS ZONE-3 INDICATES THE SAID EFFICACY OF THE MEDICINES



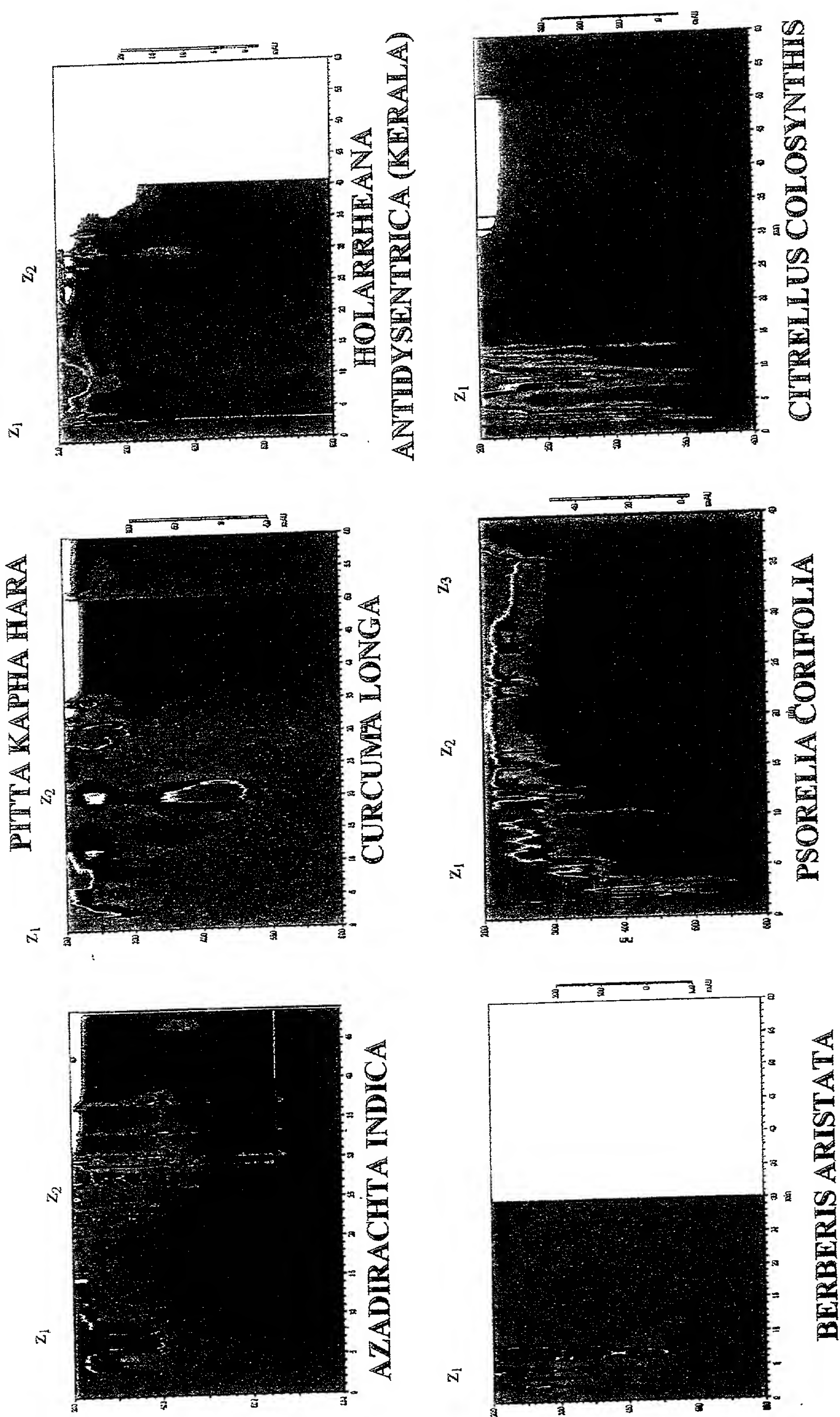


Figure 17

THE PRESENCE OF CONSTITUENTS IN ZONE-1 AND ZONE-2 INDICATES THE SAID EFFICACY OF THE MEDICINES

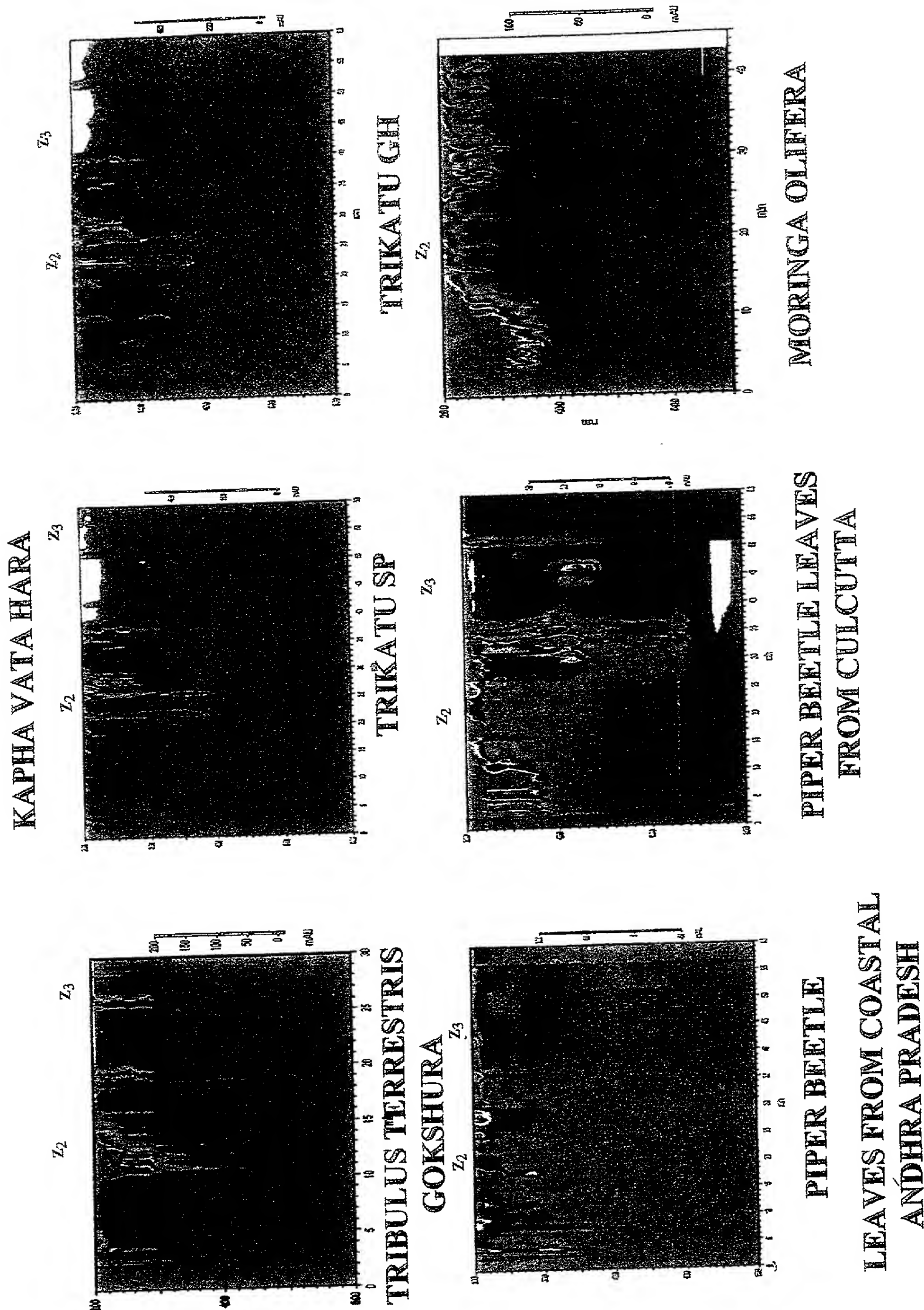


Figure 18

THE PRESENCE OF CONSTITUENTS IN ZONE-2 AND ZONE-3 INDICATES THE SAID EFFICACY OF THE MEDICINES

PITTA VATA HARA

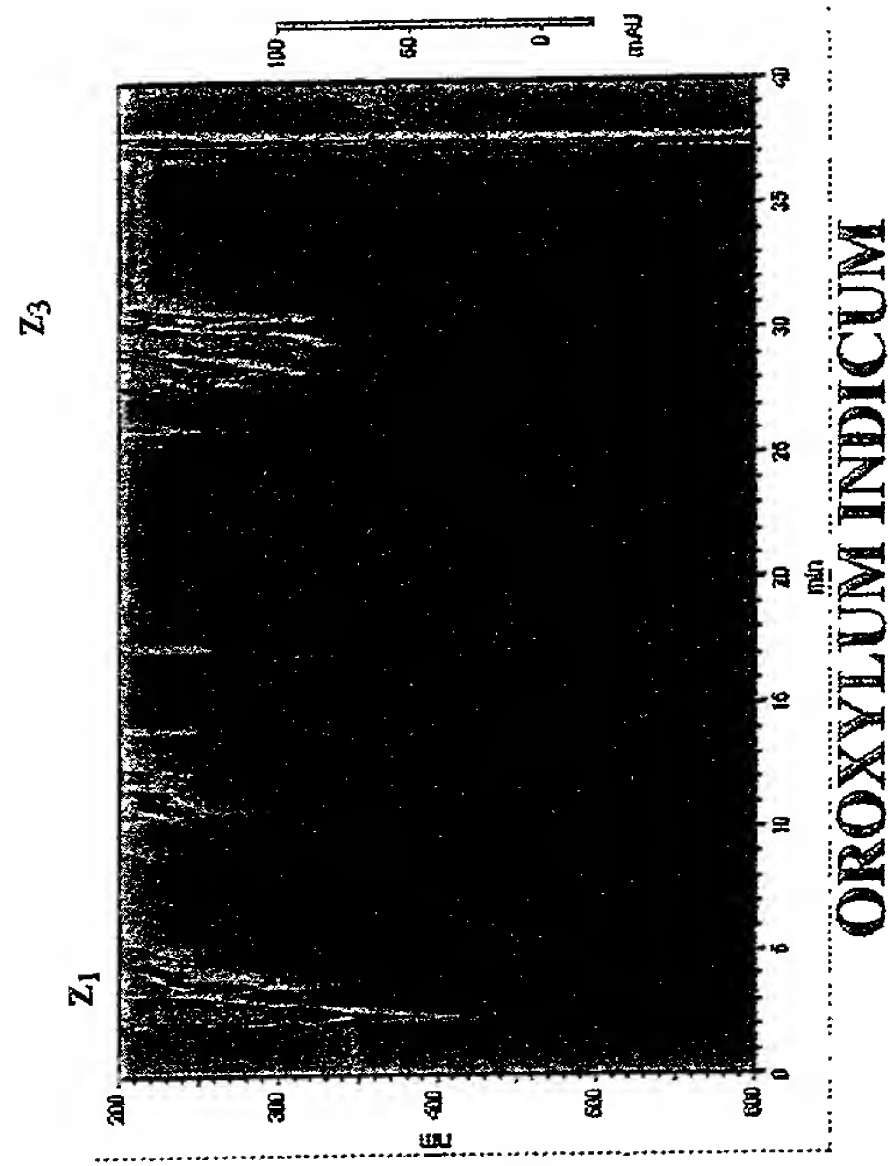
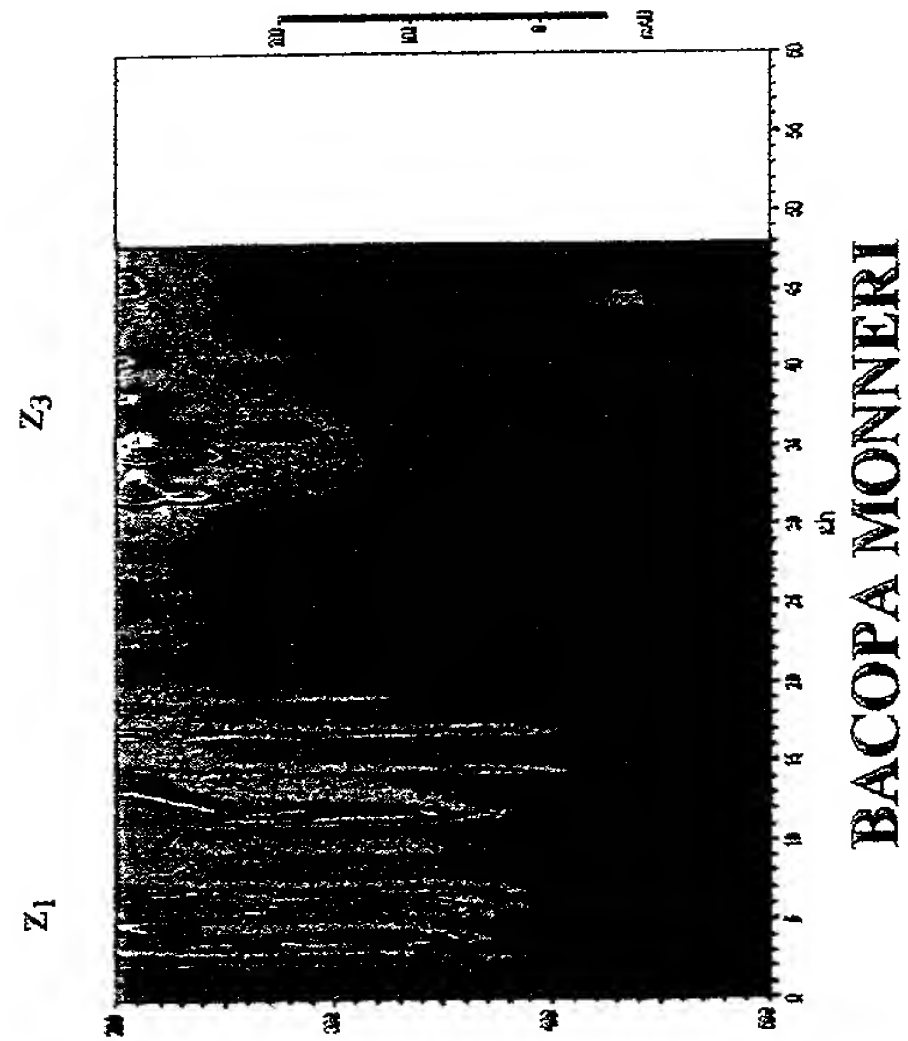
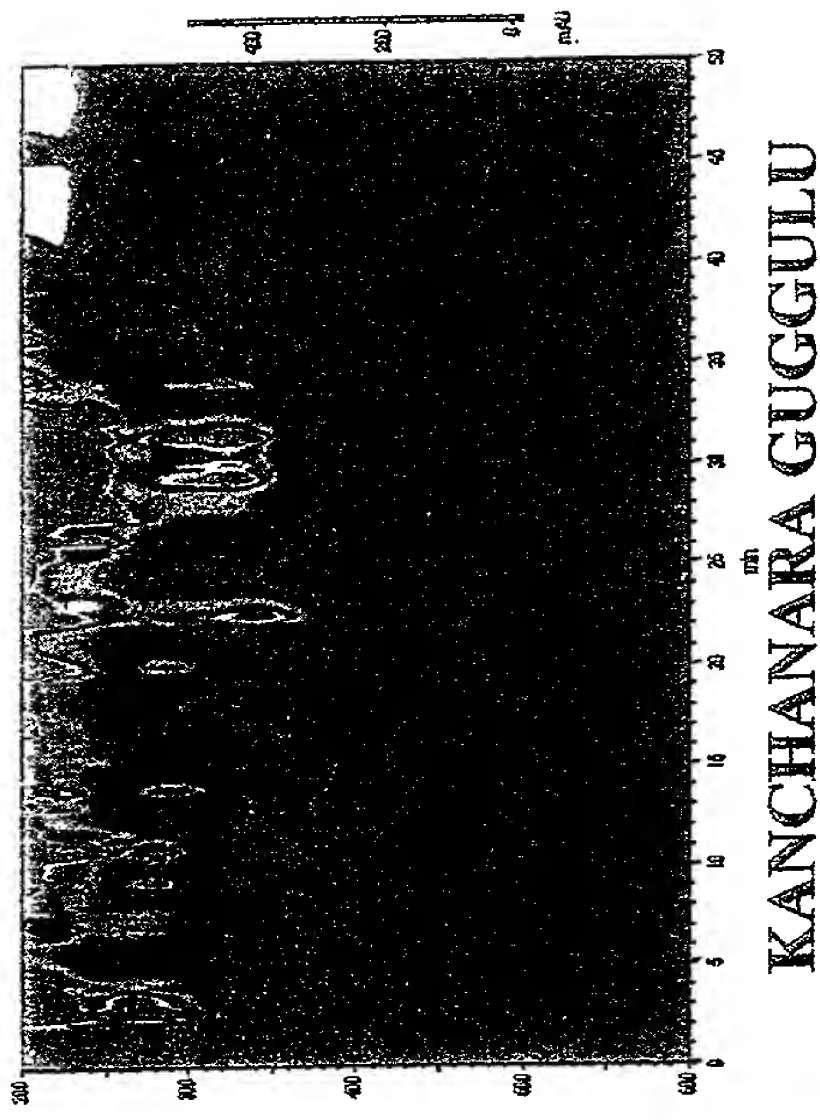
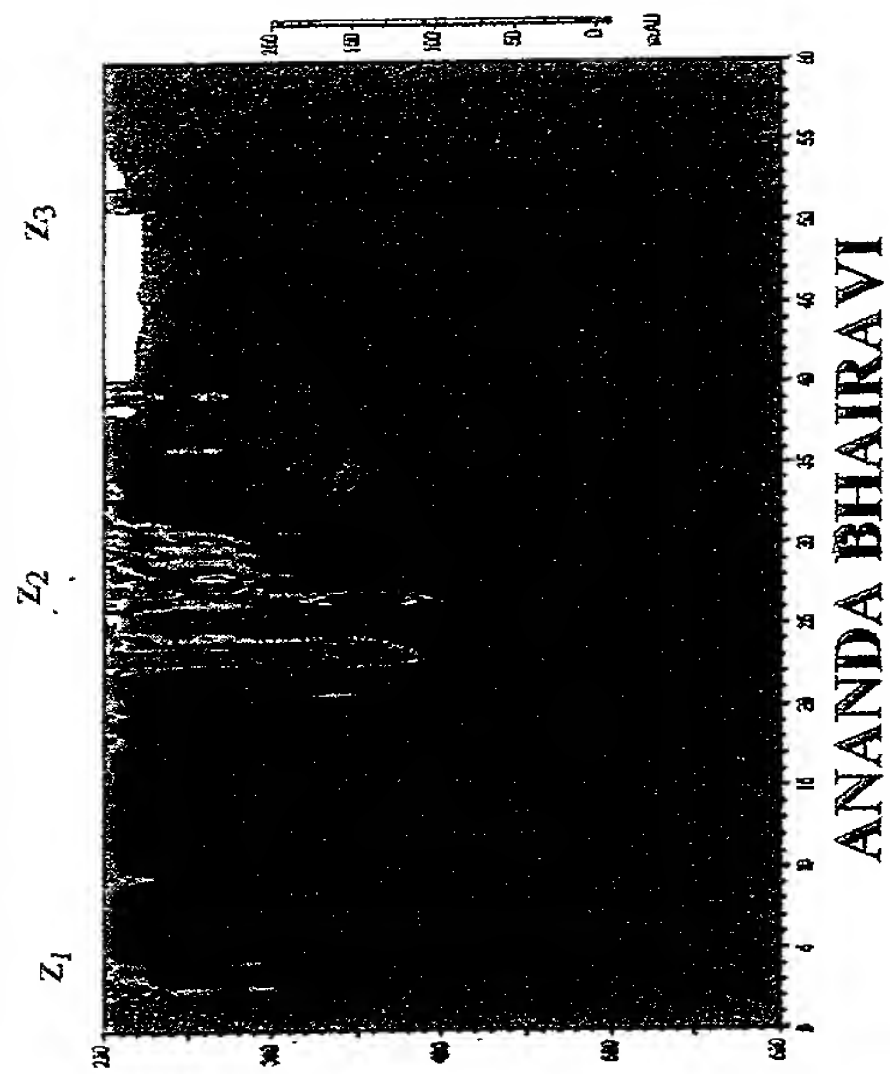
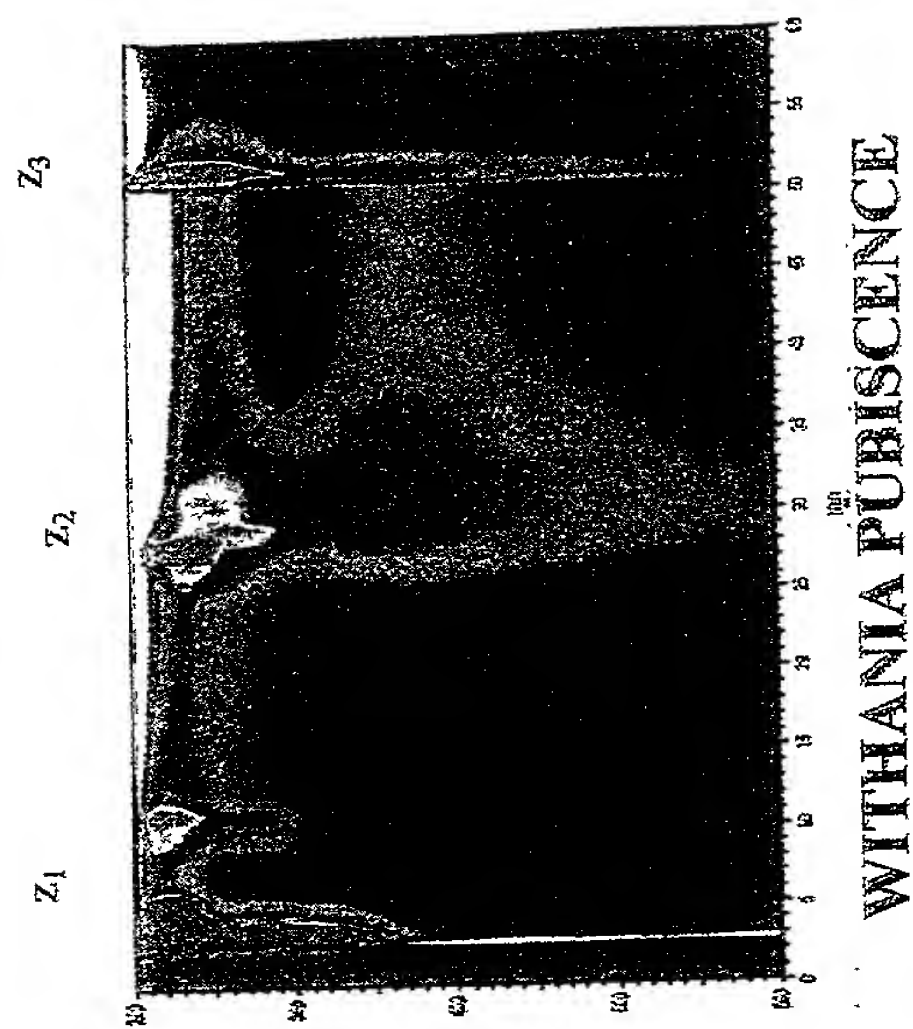
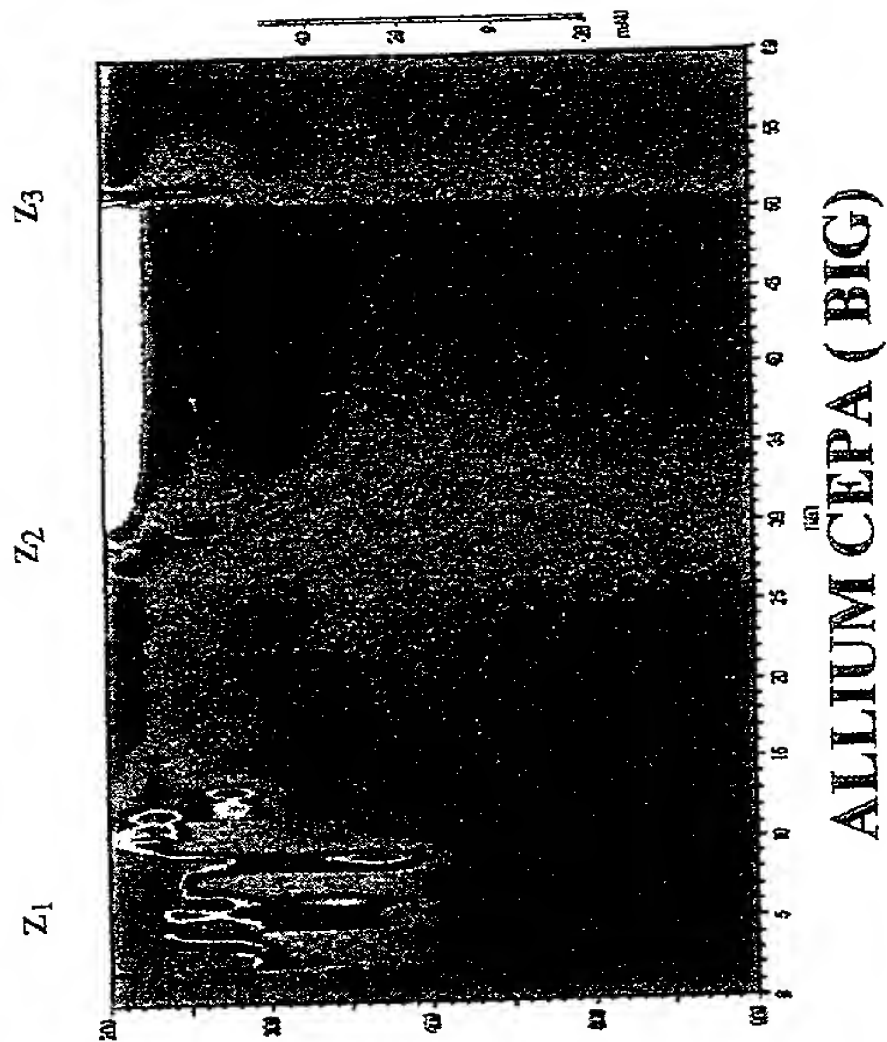


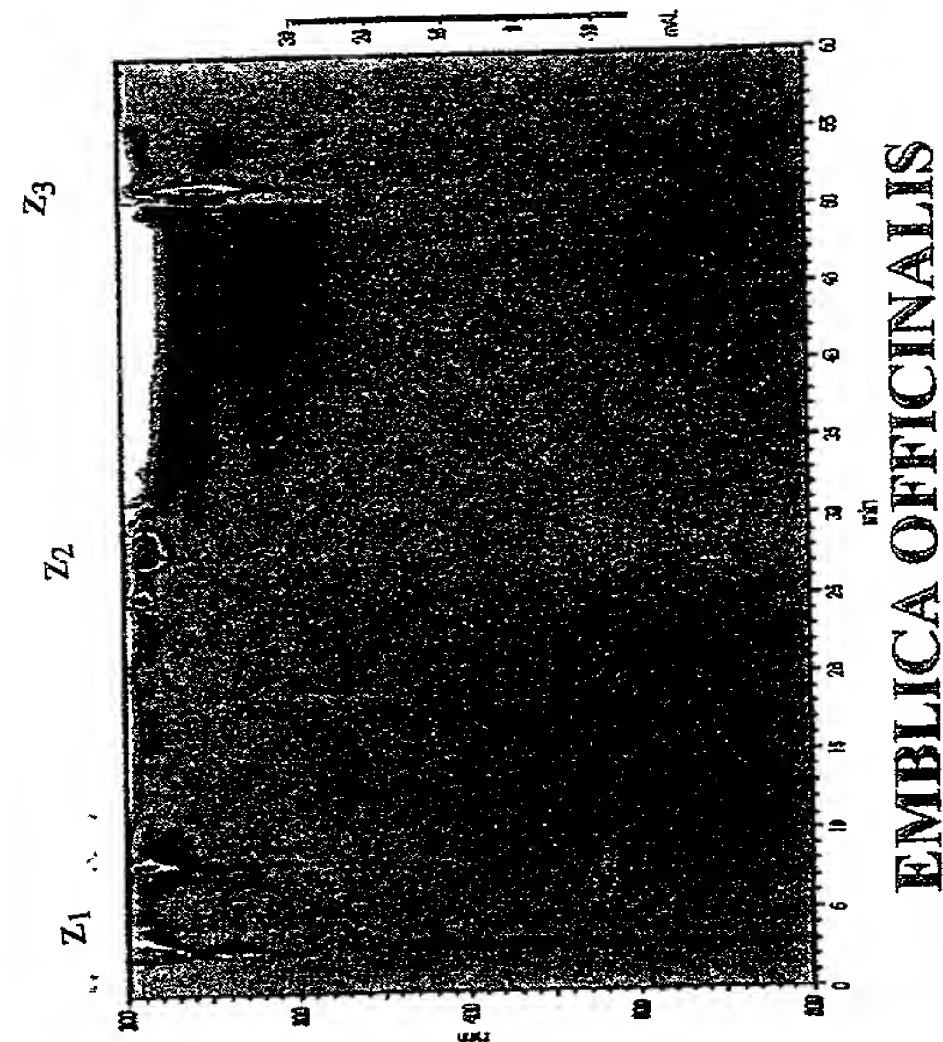
Figure 19

THE PRESENCE OF CONSTITUENTS IN ZONE-1 AND ZONE-3 INDICATES THE SAID EFFICACY OF THE MEDICINES

**TRI DOSHA HARA**



**RED SEEDS**



**MAHALAKSHMI VILAS RAS**

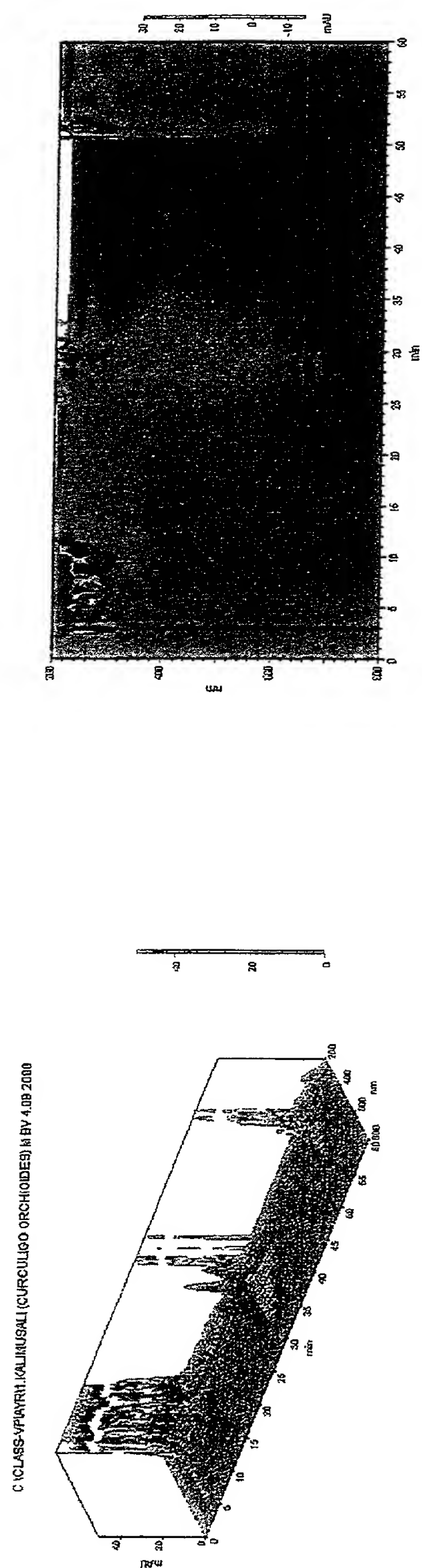
Figure 20

THE PRESENCE OF CONSTITUENTS IN ALL THREE ZONES INDICATES THE SAID EFFICACY OF THE MEDICINES

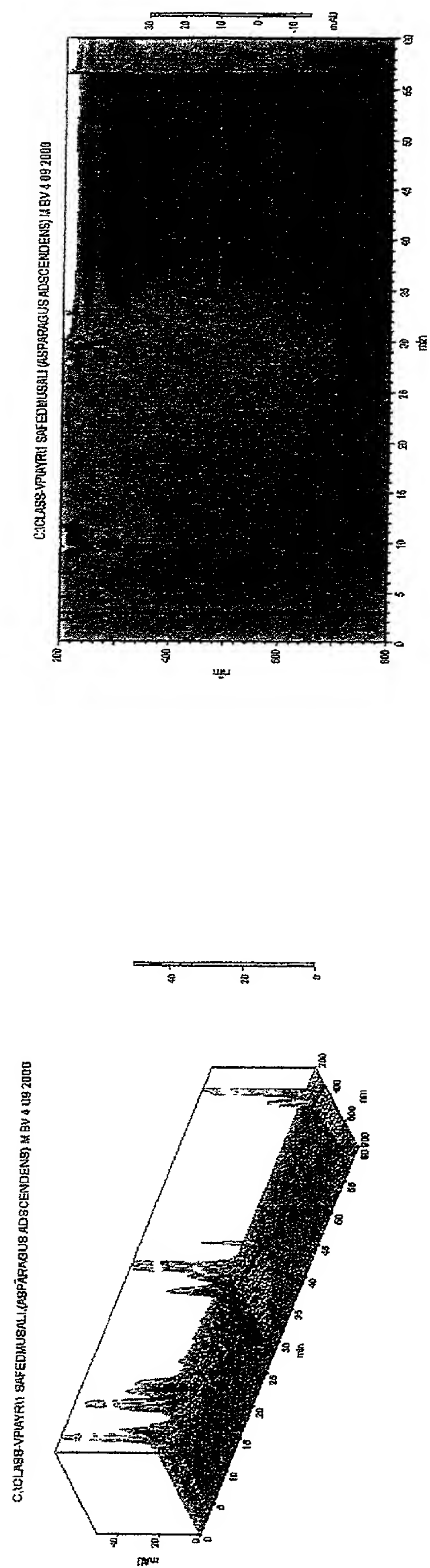


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**Figure: MUSALI - A TRIDOSHA HARA MEDICINE**



# FINGER PRINTS OF CURCULIGO ORCHOIDIS (KALIMUSALI)

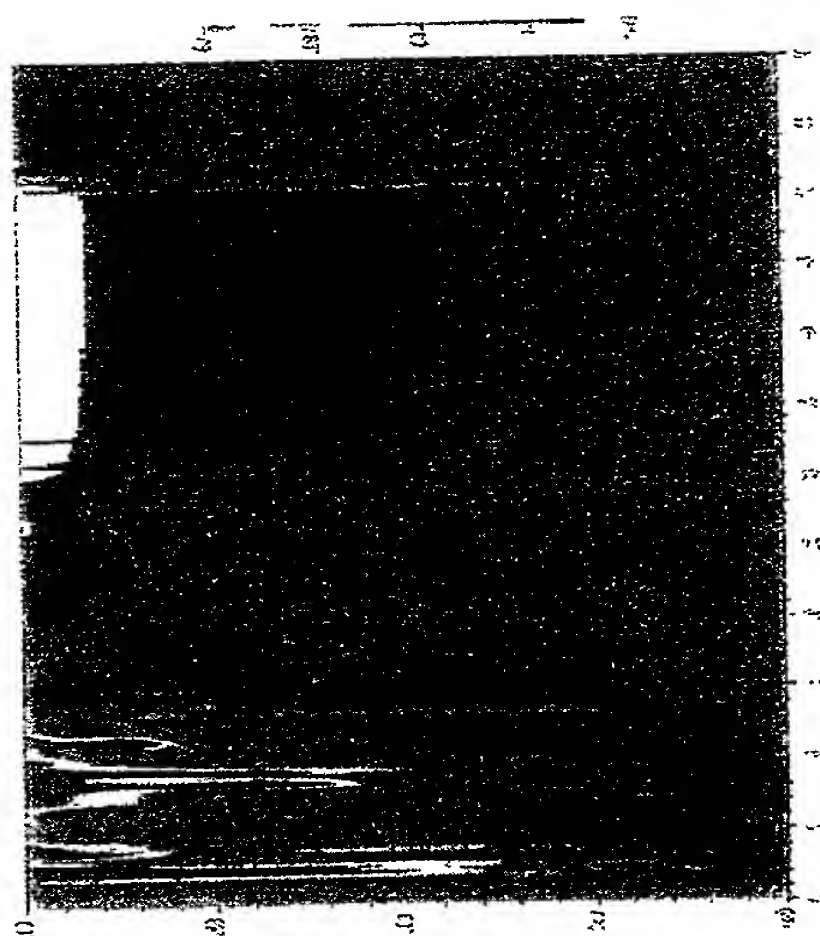


FINGER PRINT OF ASPARAGUS ADESCENDENS (SAFED MUSALI)

Figure 21

CITRULLUS COLOSYNTHIS  
(HOMOEOPATHIC MEDICINE)

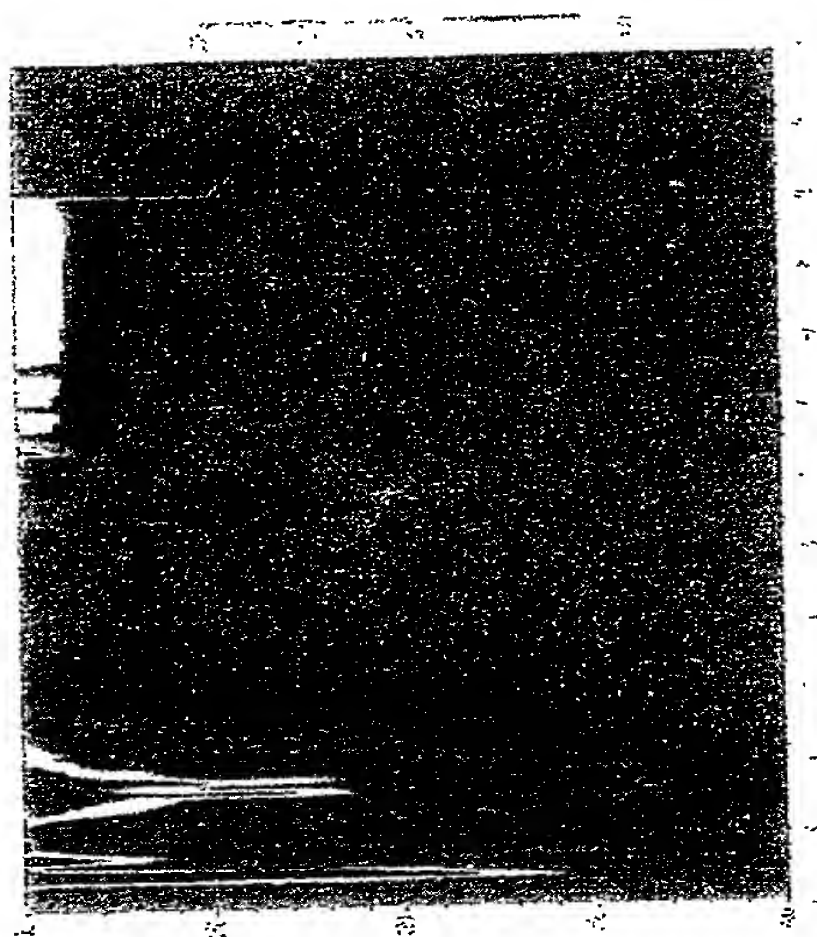
Very bitter peak of difference



CITRULLUS COLOSYNTHIS

GOOD BY EFFICACY

Light in bitterness absent



CITRULLUS COLOSYNTHIS

POOR BY EFFICACY

THE LACK OF SOME CONSTITUENTS IN THE FINGER PRINT SHOWS THE USE OF THIS METHOD FOR THE STANDARDIZATION OF EXTRACTION PROCESS OF HOMOEOPATHIC TINCTURES FROM PLANTS

This supports the claim of taste identification used for therapeutic standardization.

Figure 22

## INFLUENCE OF ECOLOGICAL FACTORS

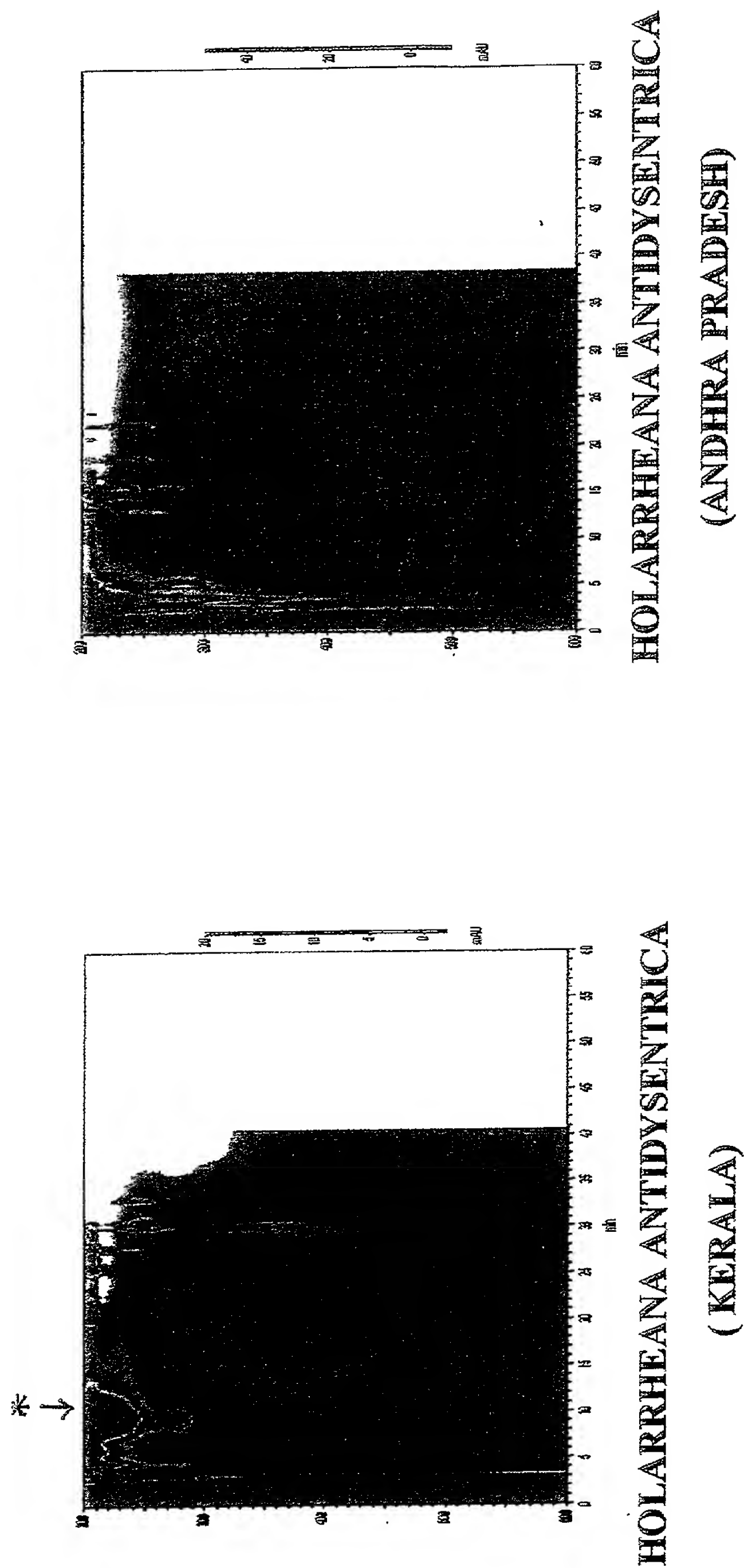


Figure 23

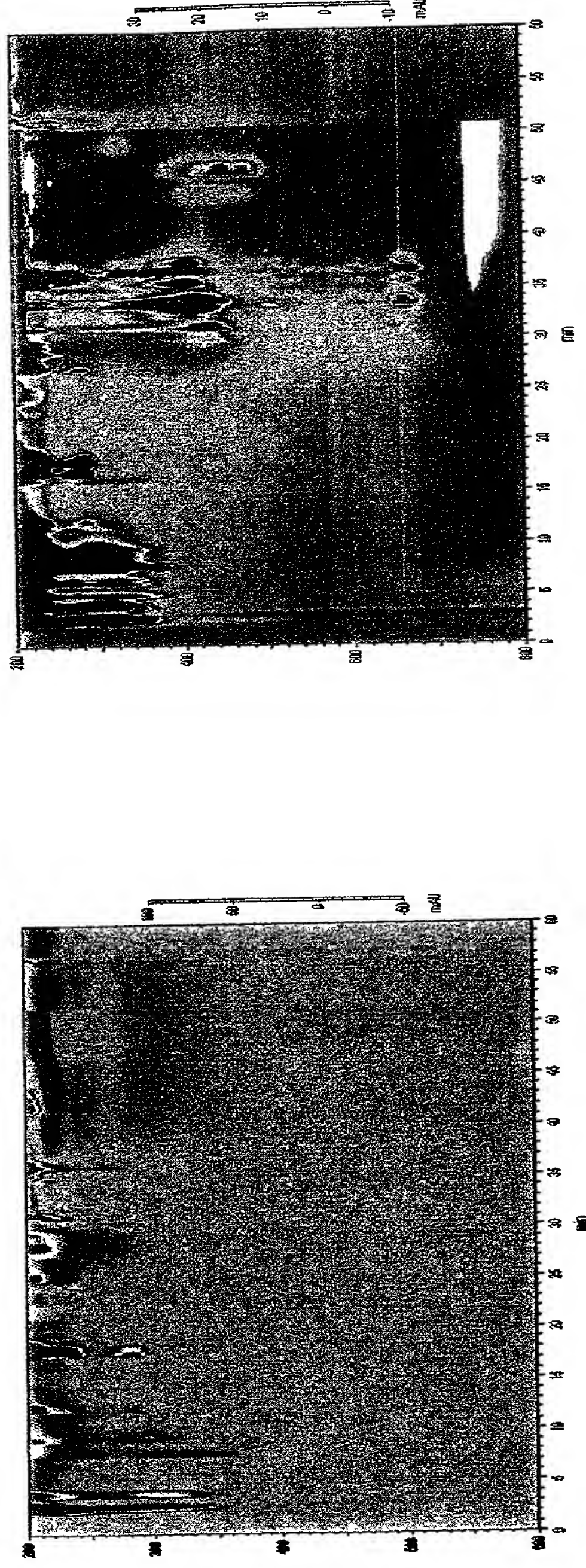
THE FINGER PRINTS SHOWS THE INFLUENCE OF ECOLOGICAL FACTORS ON THE  
CHEMICAL CONSTITUENTS OF THE PLANT MATERIAL OF

### DIFFERENT TROPICAL ZONES OF THE COUNTRY.

\* This constituent is basic in nature because the basic or alkaline amines elutes stretched or elongated. Acid compounds elute fast like a sharp peak.

Figure 24

## PIPER BEETLE EXAMPLE



BEETLE LEAVES FROM COASTAL  
ANDHRA PRADESH

BEETLE LEAVES FROM  
CALCUTTA

Aurones and Chareones (flavonoids) are antioxidants. A combinatorial library of \_\_\_\_\_ can be seen.

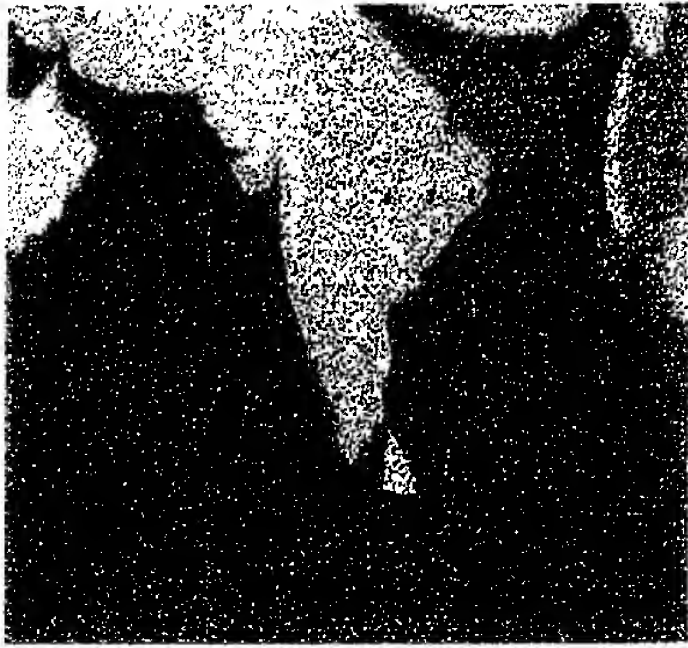
THE FLAVONOIDS PRESENT IN THE TIME RANGE OF 30 - 40 MIN SHOWS THE INFLUENCE OF GENOTYPIC, PHENOTYPIC VARIATIONS AND ECOLOGICAL FACTORS ON THE CHEMICAL CONSTITUENTS OF THE PLANT MATERIAL OF DIFFERENT

TROPICAL ZONES OF THE COUNTRY

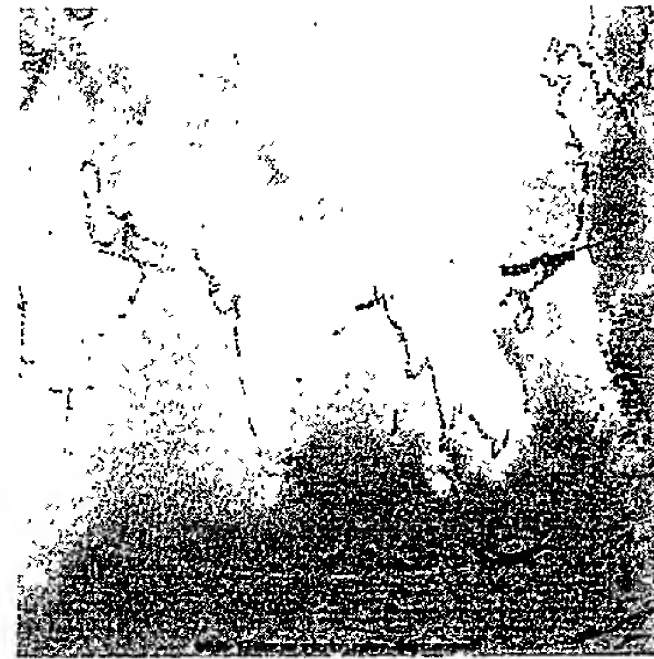


**Figure 25**

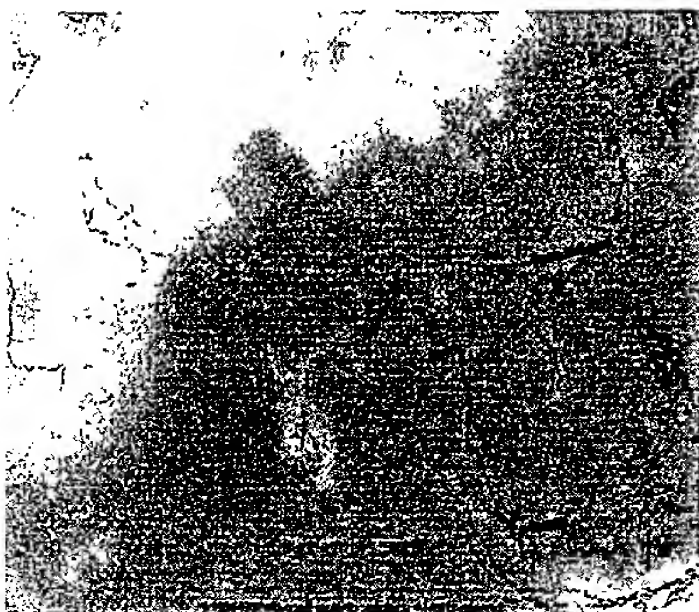
**Figure : Indian Eco-regions**



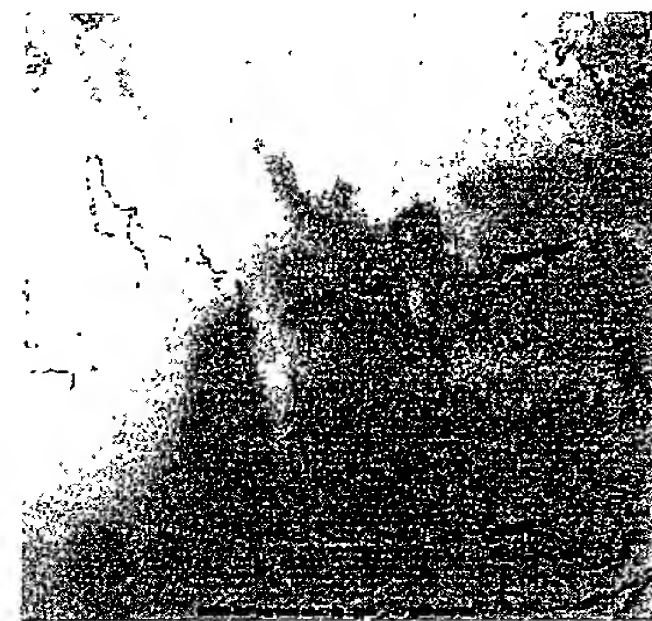
**India-Eco-regions**



**India-Precipitations-January**



**India-Precipitation-July**



**India-India precipitation -Annual**



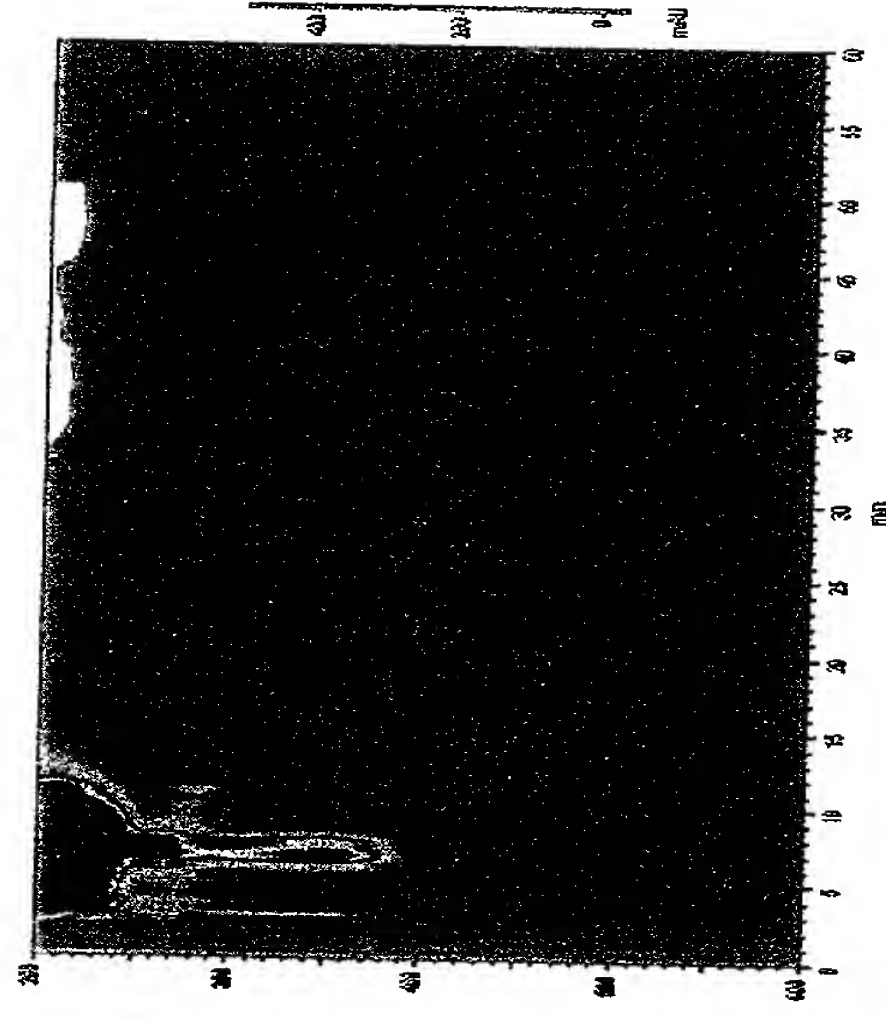
**India-Temparature-January**



**India-Climate map**

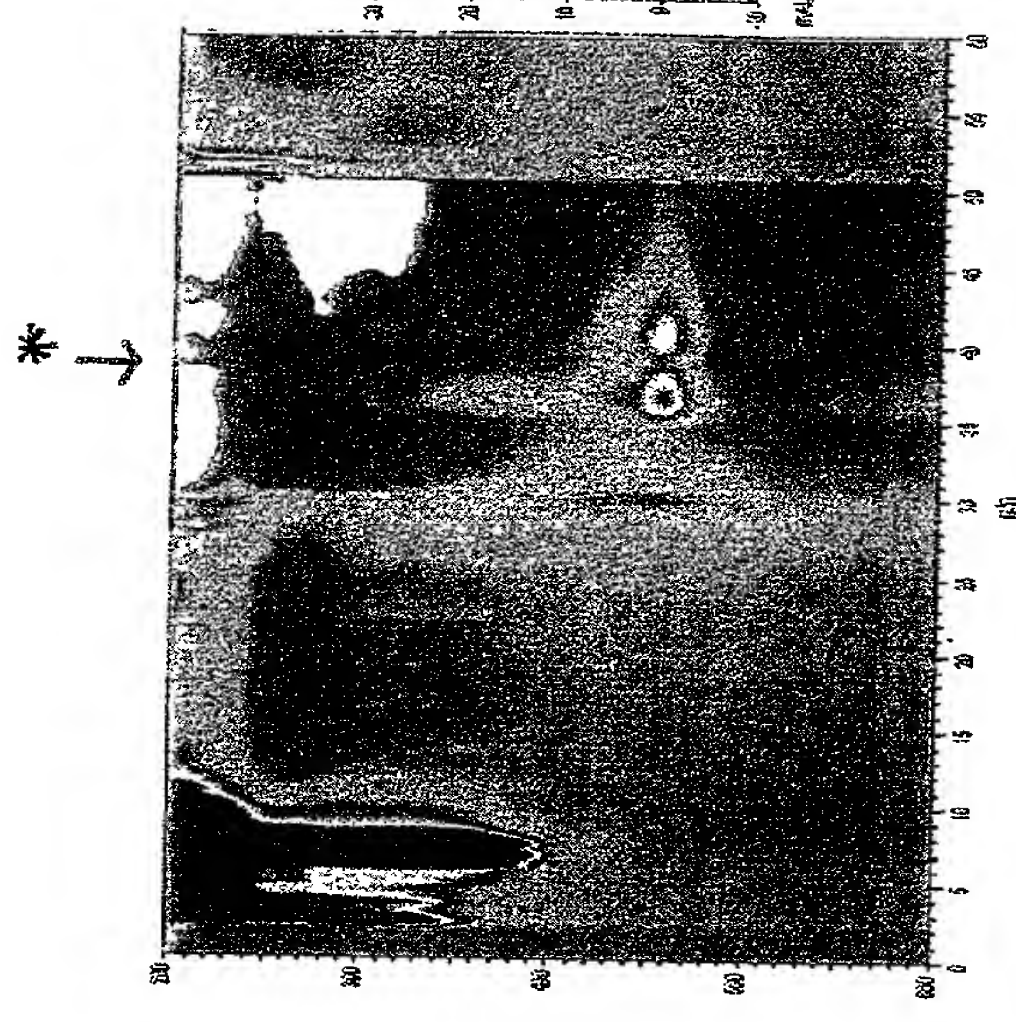
Figure 26

## HERBAL HEAD BATH POWDERS



HERBAL HEAD BATH POWDER

PURE



HERBAL HEAD BATH POWDER

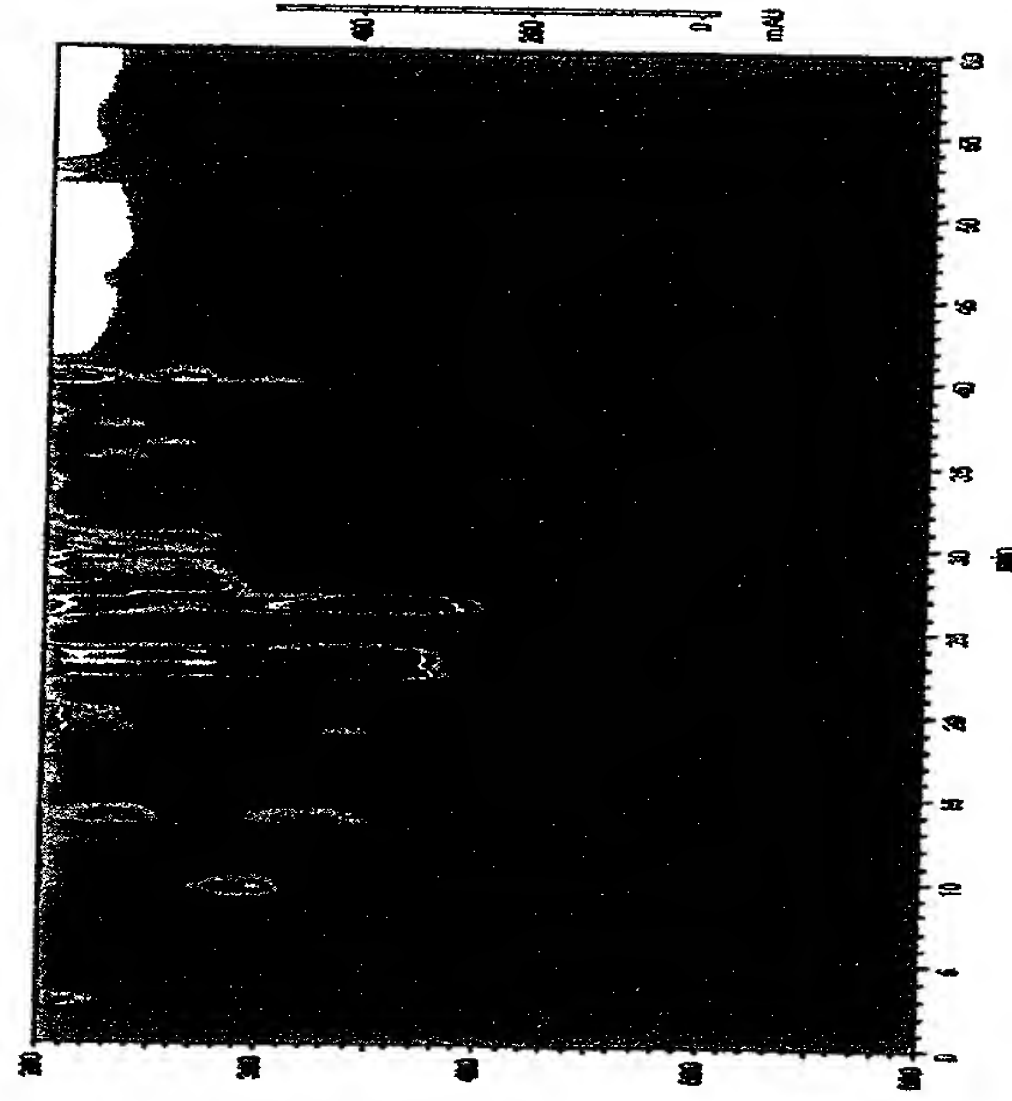
ADULTERATED

THE ABOVE FINGER PRINTS SHOW THE ADULTERATION OF DETERGENTS IN THE SAID HERBAL COSMETIC PRODUCT. THUS FINGER PRINTING HELPS TO MONITOR THE ADULTERATIONS IN VARIOUS COMMERCIAL HERBAL PRODUCTS

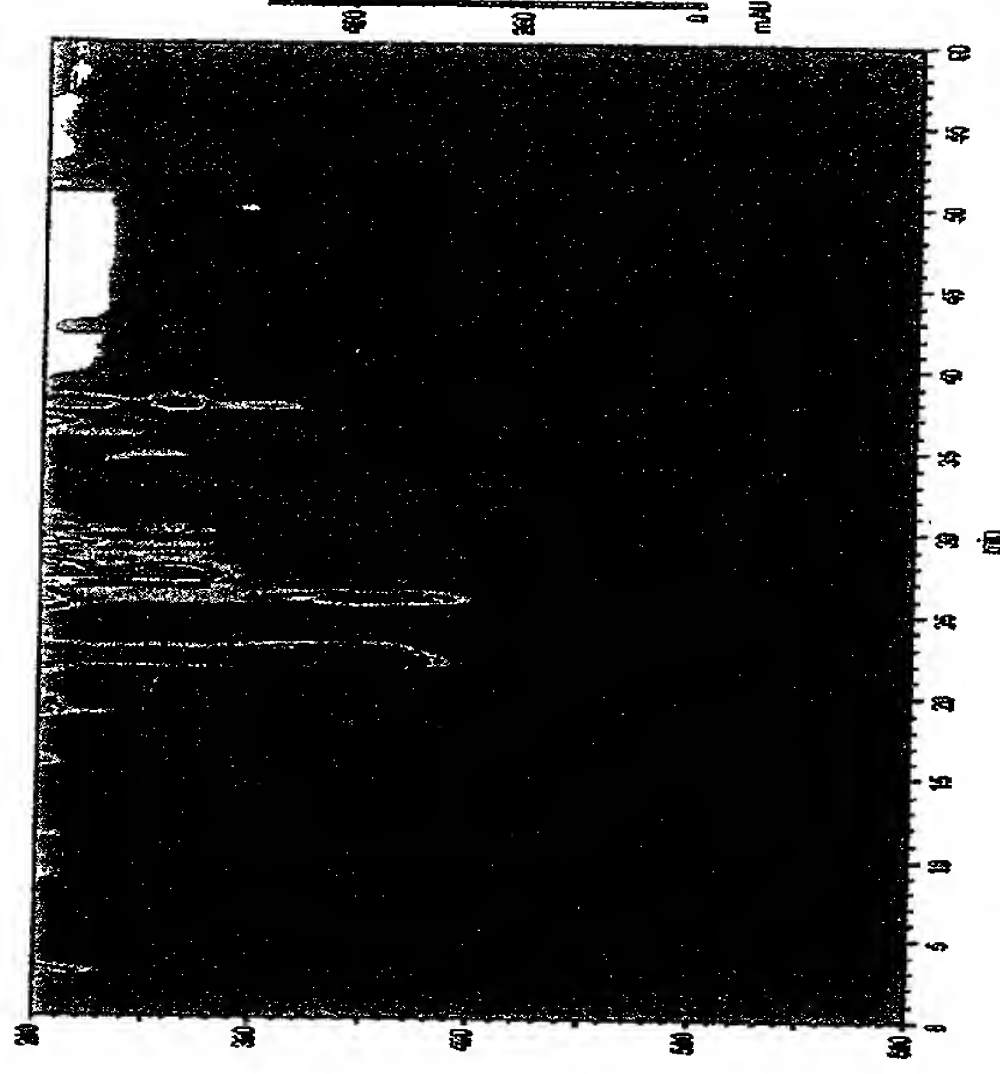
- \* → Constituents at 35-40 minutes are highly basic and soapy in nature . The pure detergent sample are eluting at the same time.

Figure 27

# HERBAL FORMULATIONS OF DIFFERENT BRANDS



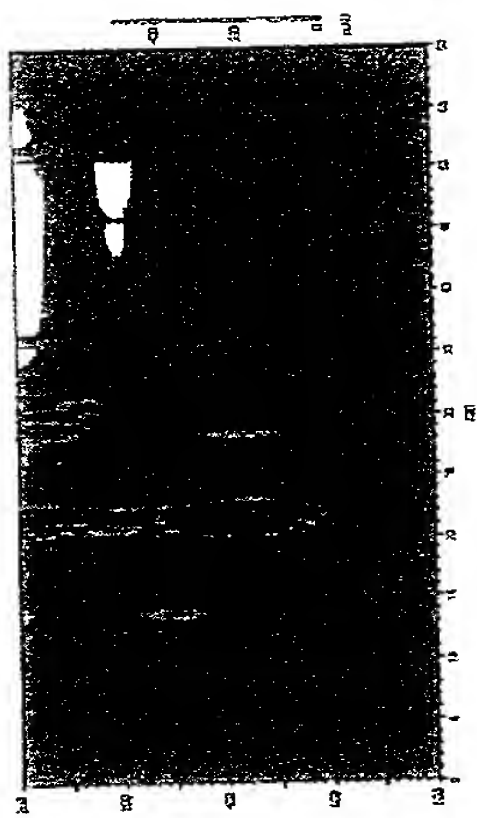
TRIKATU - BRAND 1



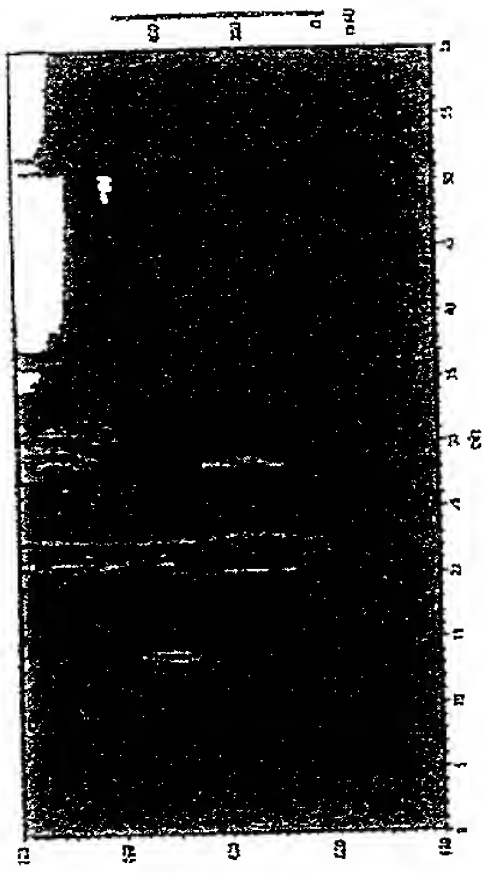
TRIKATU - BRAND 2

THE ABOVE EXAMPLE OF TRIKATU SHOWS DIFFERENCE IN THE ASSAY AND VARIATIONS IN THE CHEMICAL CONSTITUENTS. THE REASON MAY BE DUE TO THE VARIATIONS IN THE SINGLE MEDICINES USED TO PREPARE THE FORMULATIONS.

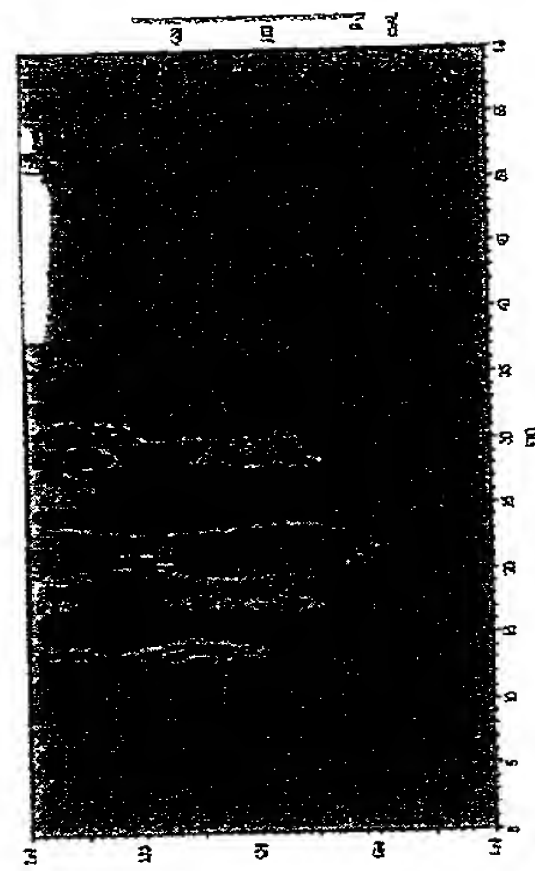
TURMERIC EXAMPLE



CURCUMA LONGA BRAND - 1

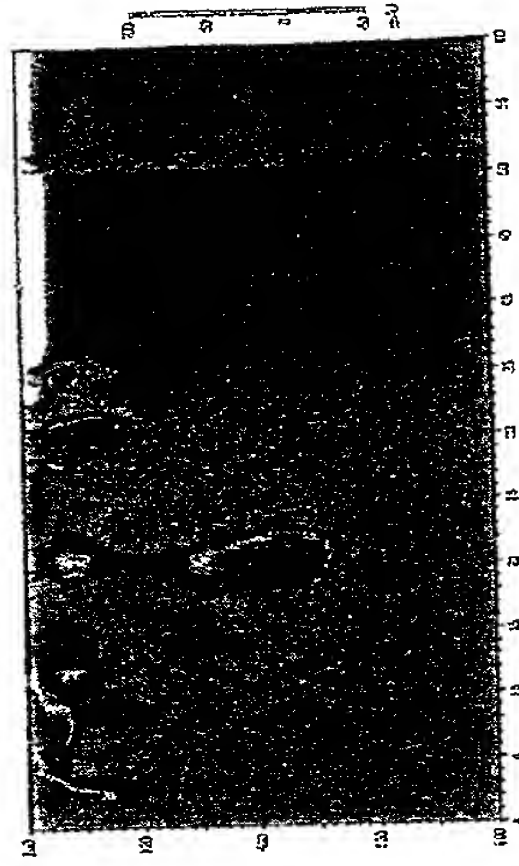


CURCUMA LONGA BRAND - 2



CURCUMA LONGA BRAND - 3

Figure 28



CURCUMA LONGA  
(NATURAL RHIZOME)

THE FINGER PRINTS OF THE SAME HERBAL PRODUCT IN DIFFERENT FORMS HELPS IN THE QUALITY CONTROL OF THE NATURAL SUBSTANCES. THE COMMON PEAKS AT 20 MIN IN NATURAL AND COMMERCIAL PRODUCTS INDICATES THE PRESENCE OF THE YELLOW COLORED MOLECULES IN ALL.



Figure 29

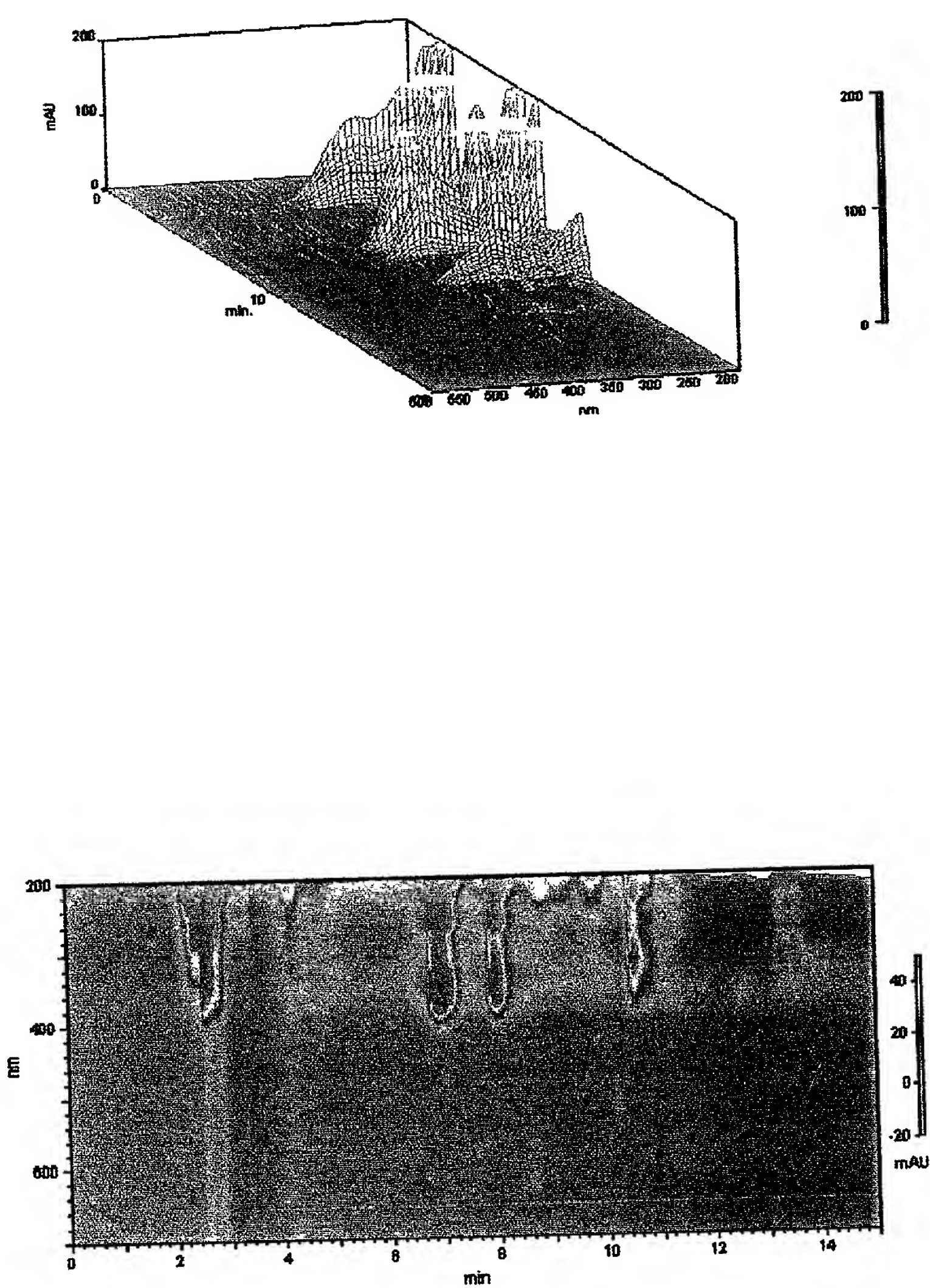


Figure 30

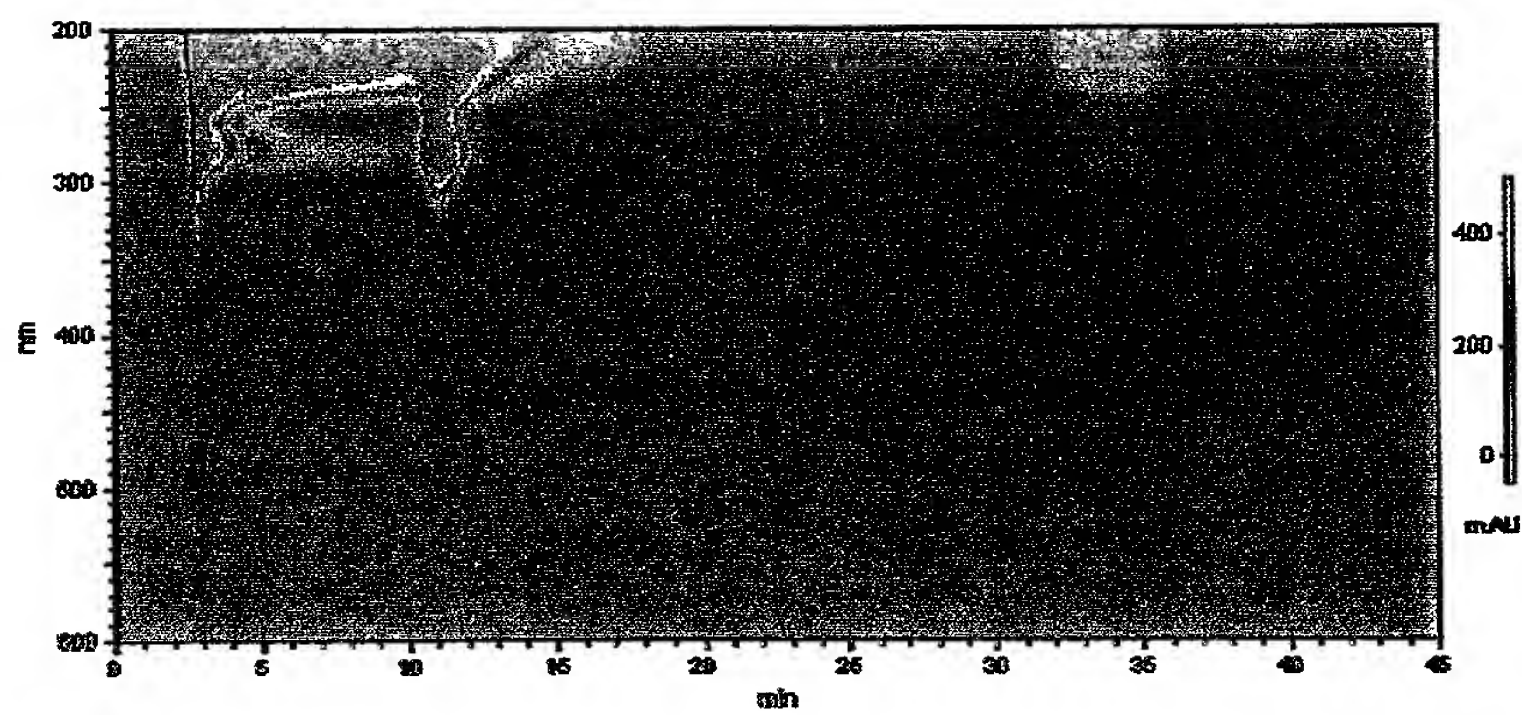
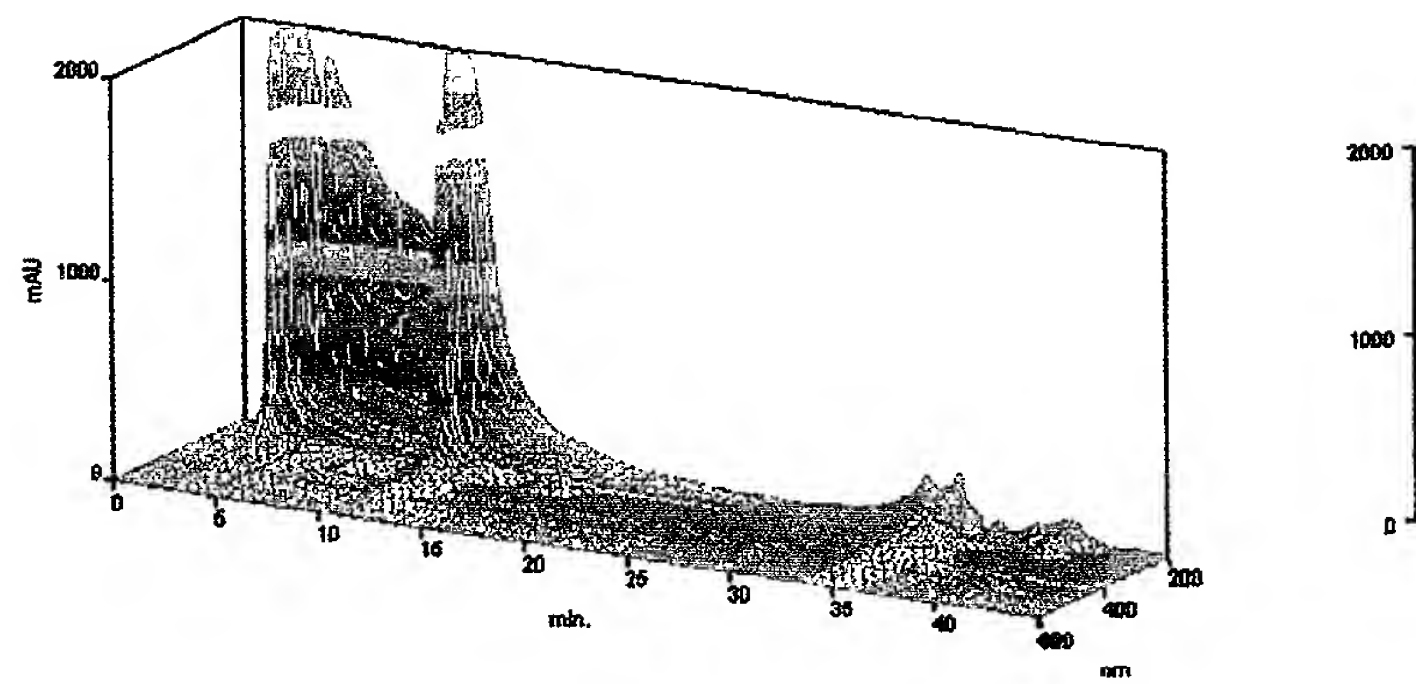


Figure 31

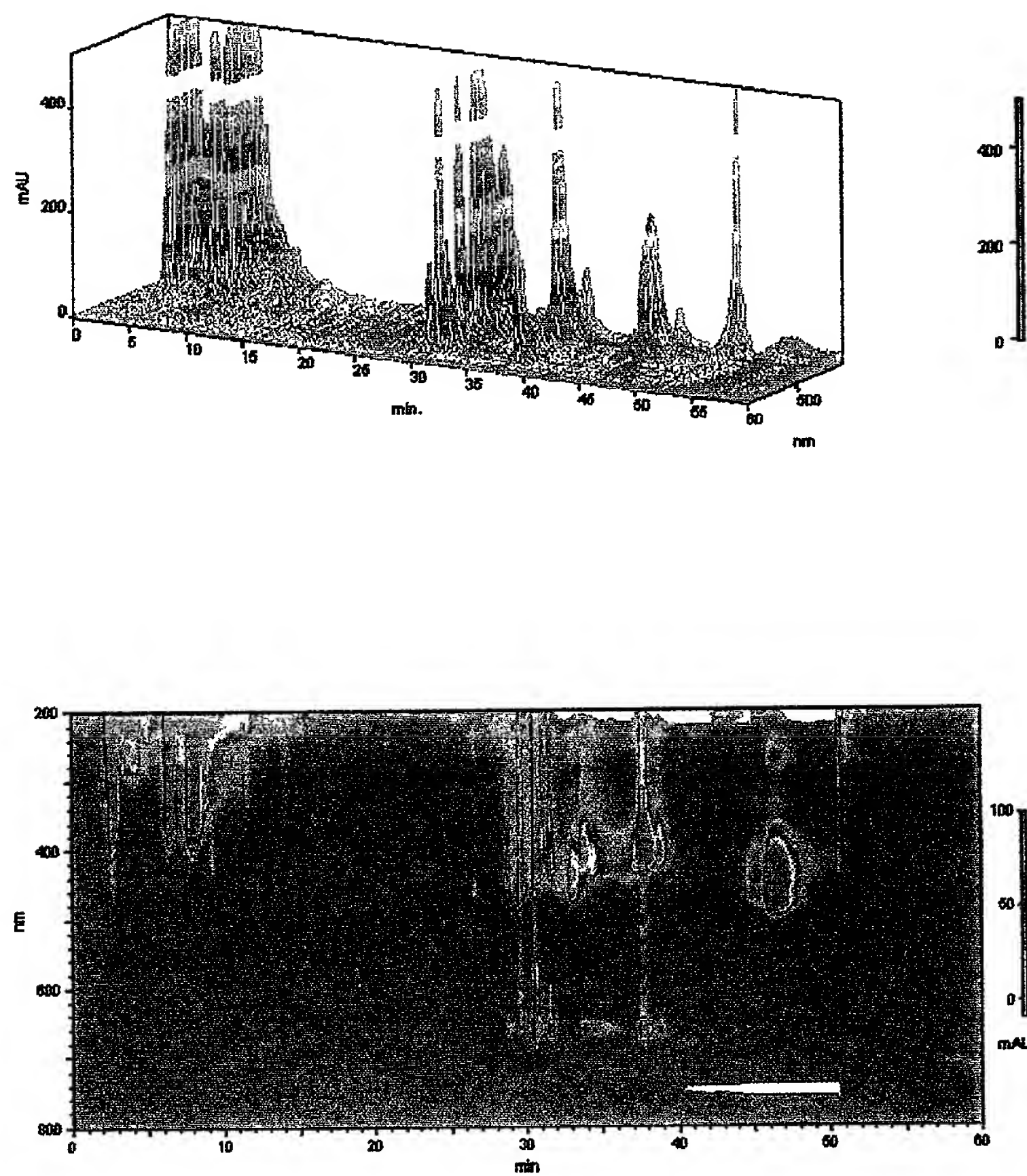


Figure 32

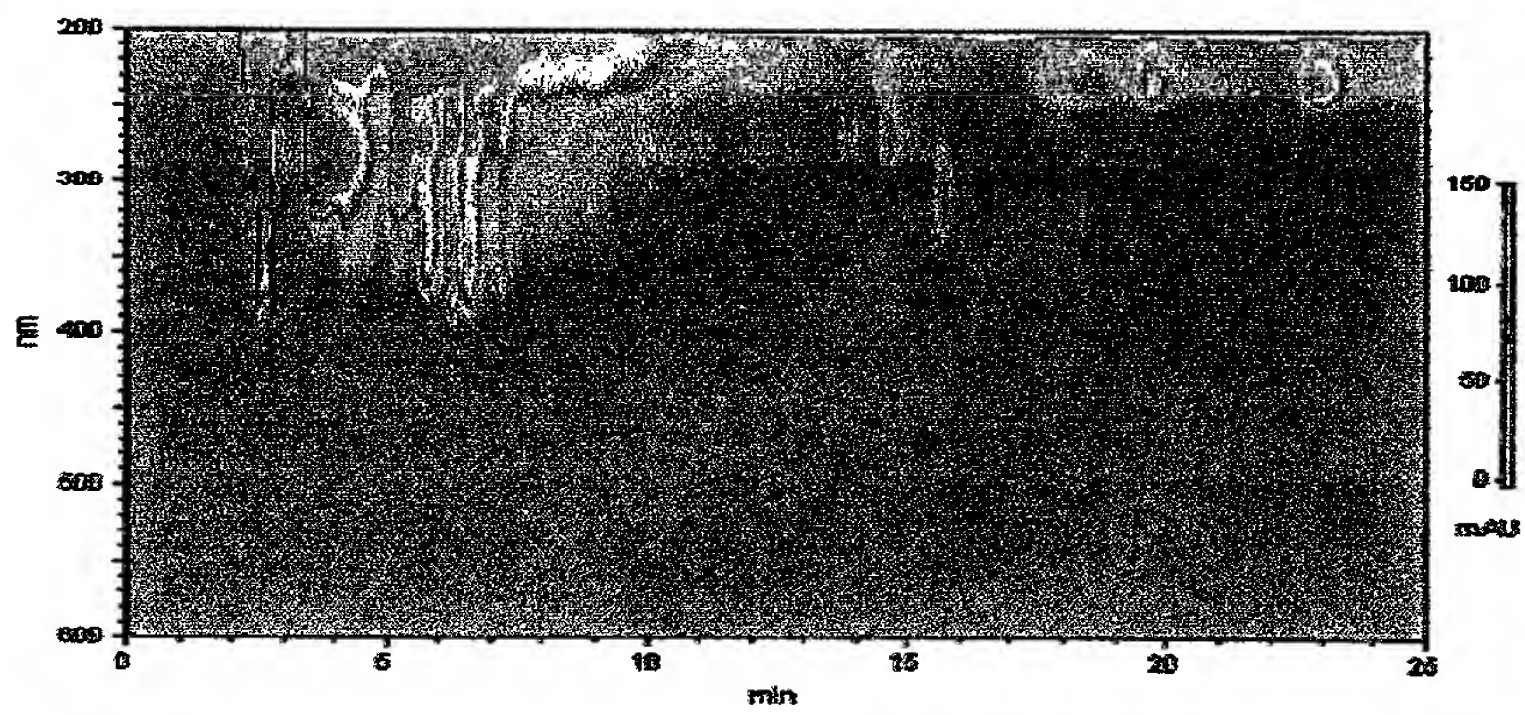
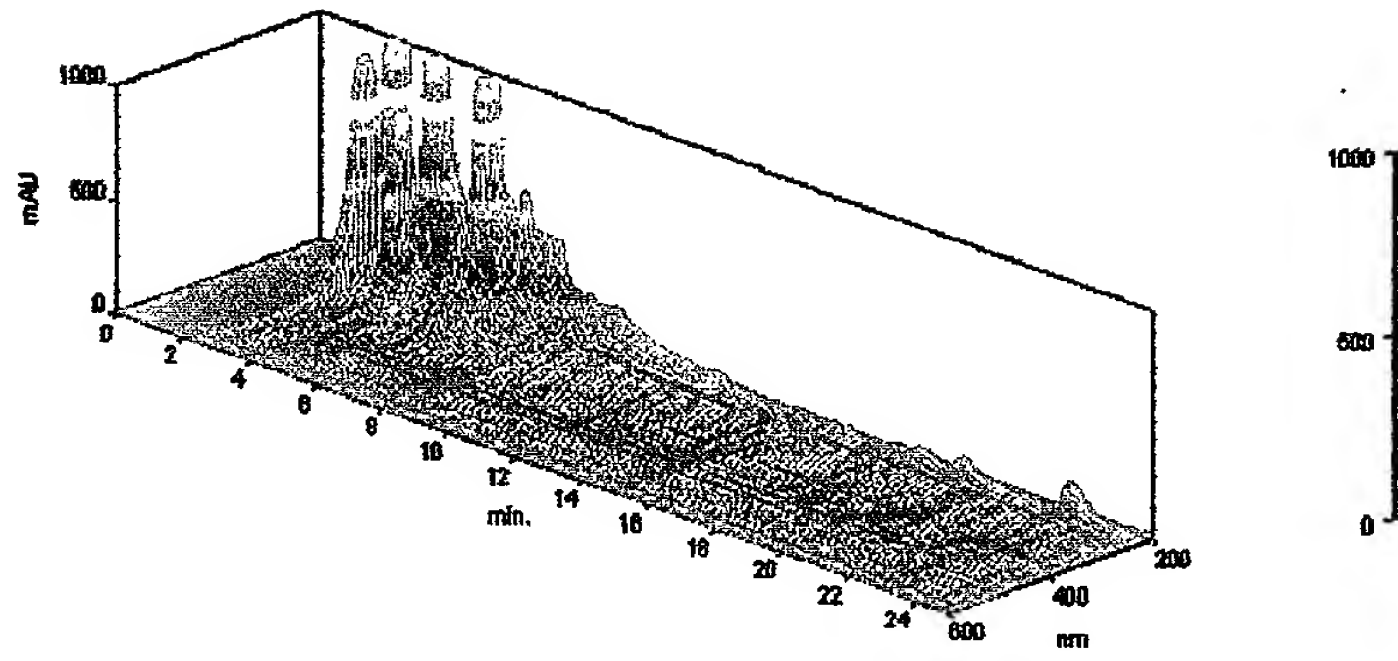


Figure 33

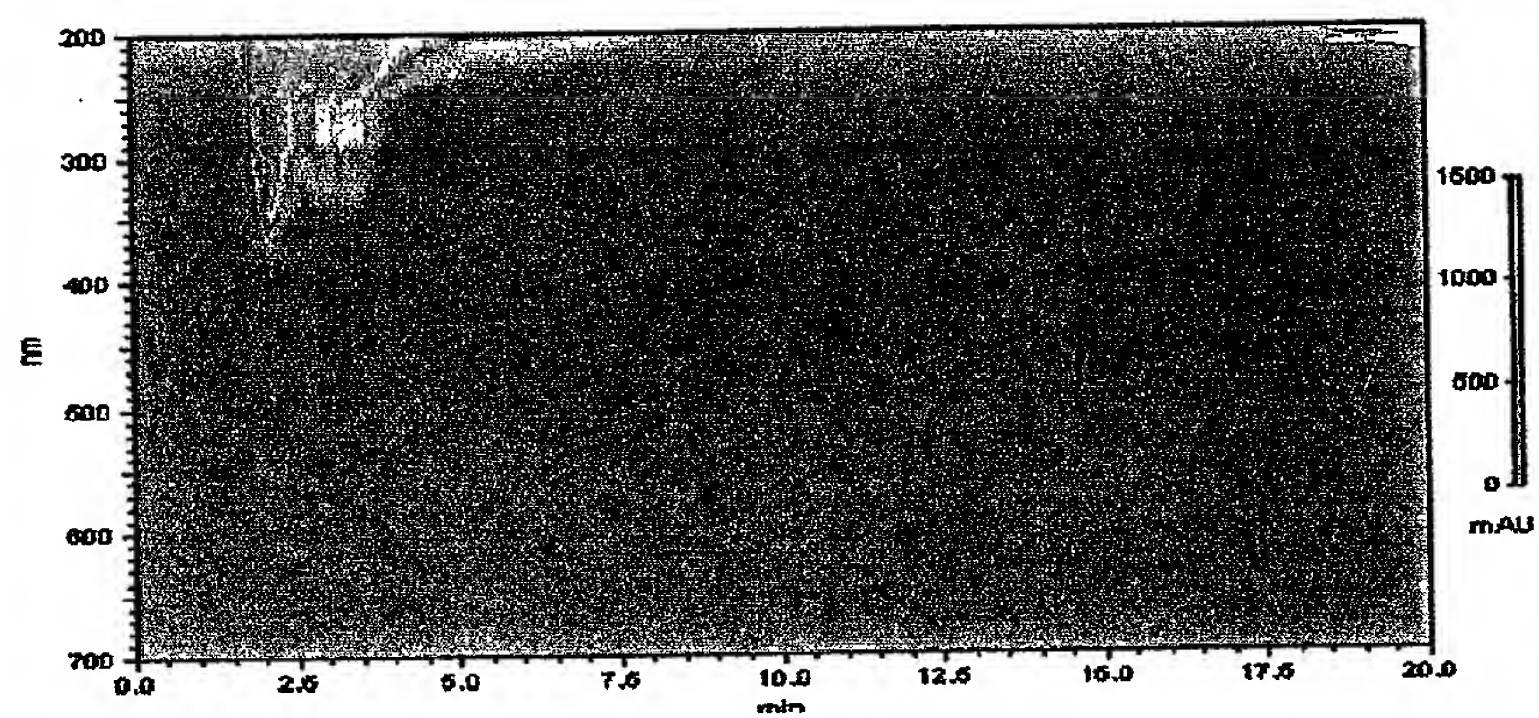
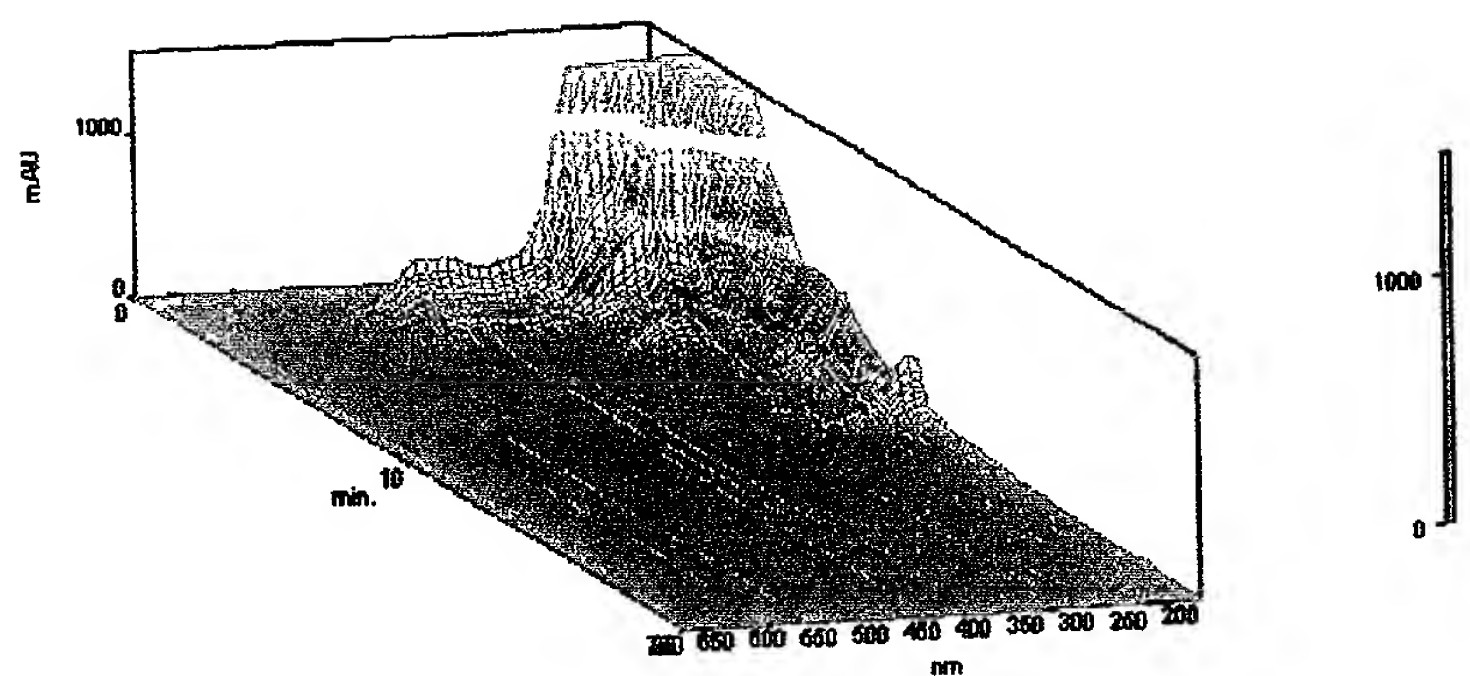




Figure 34

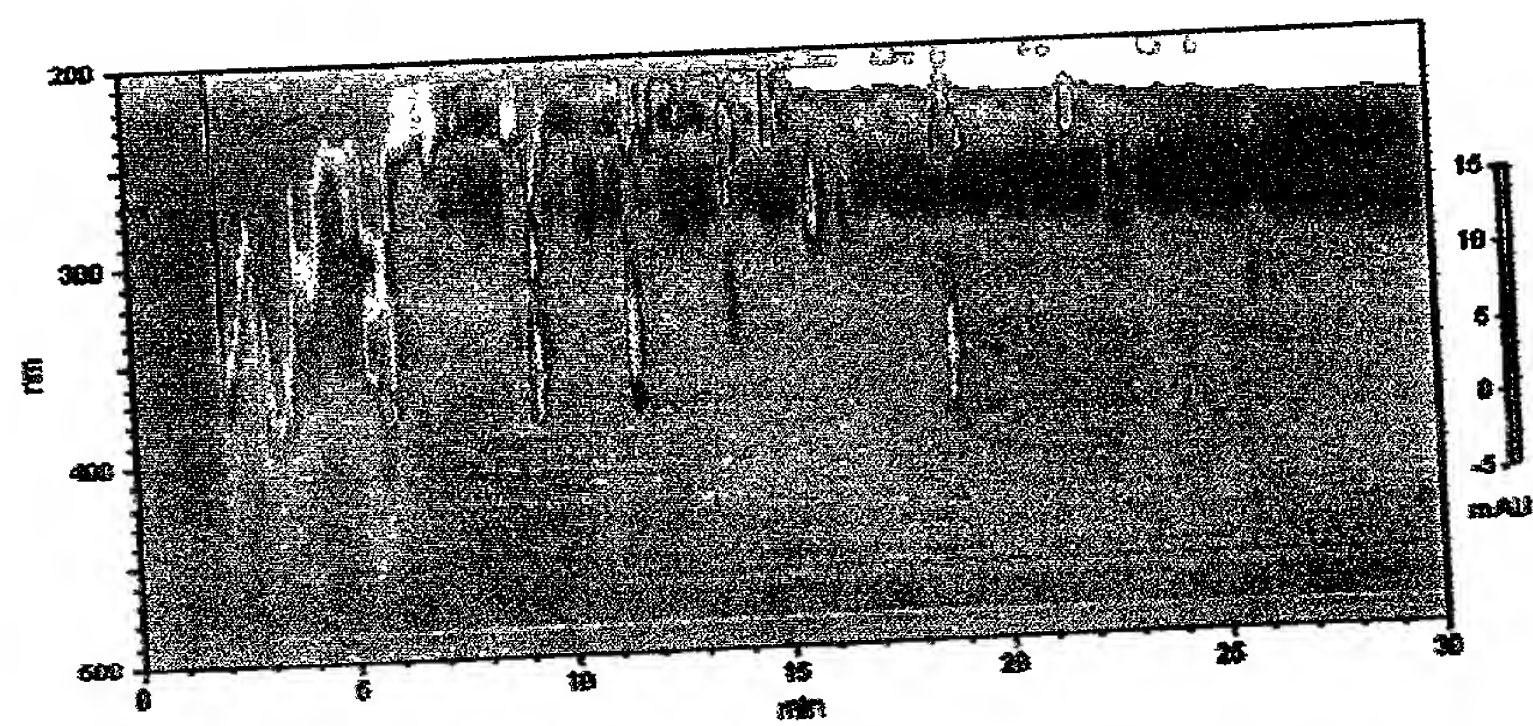
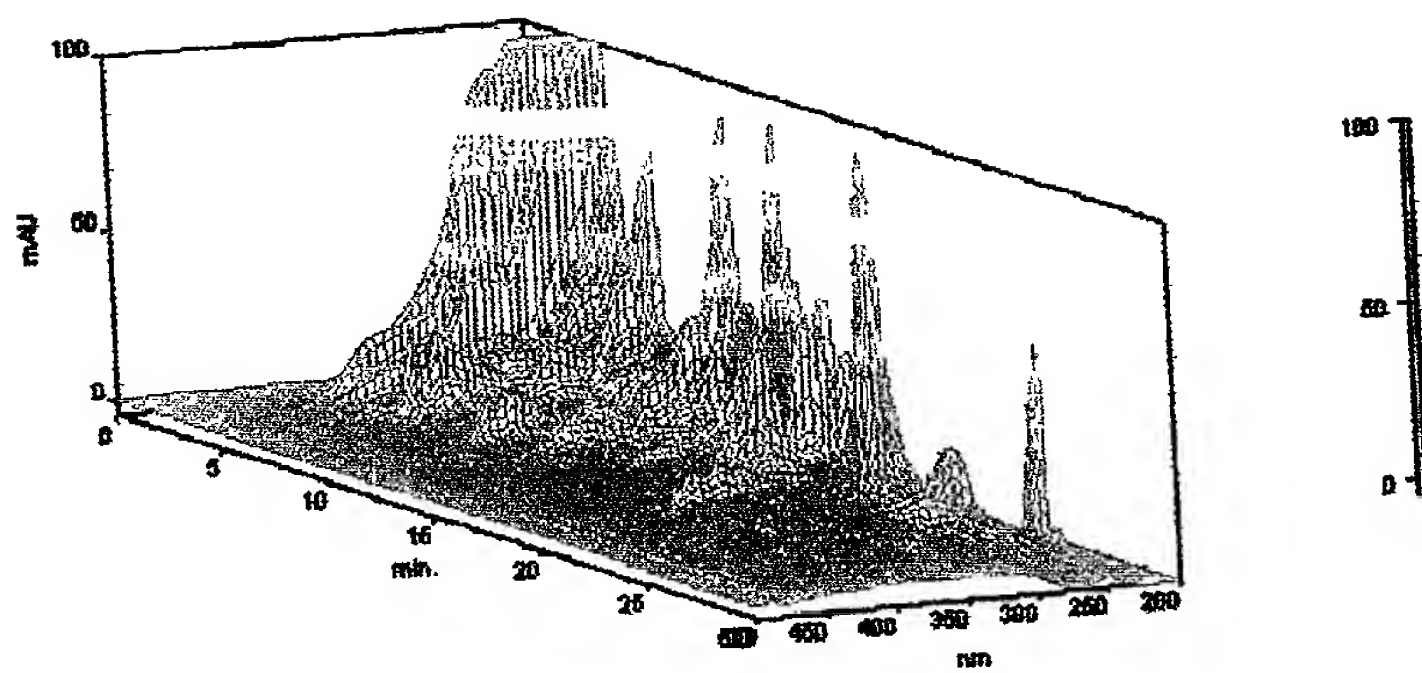


Figure 35

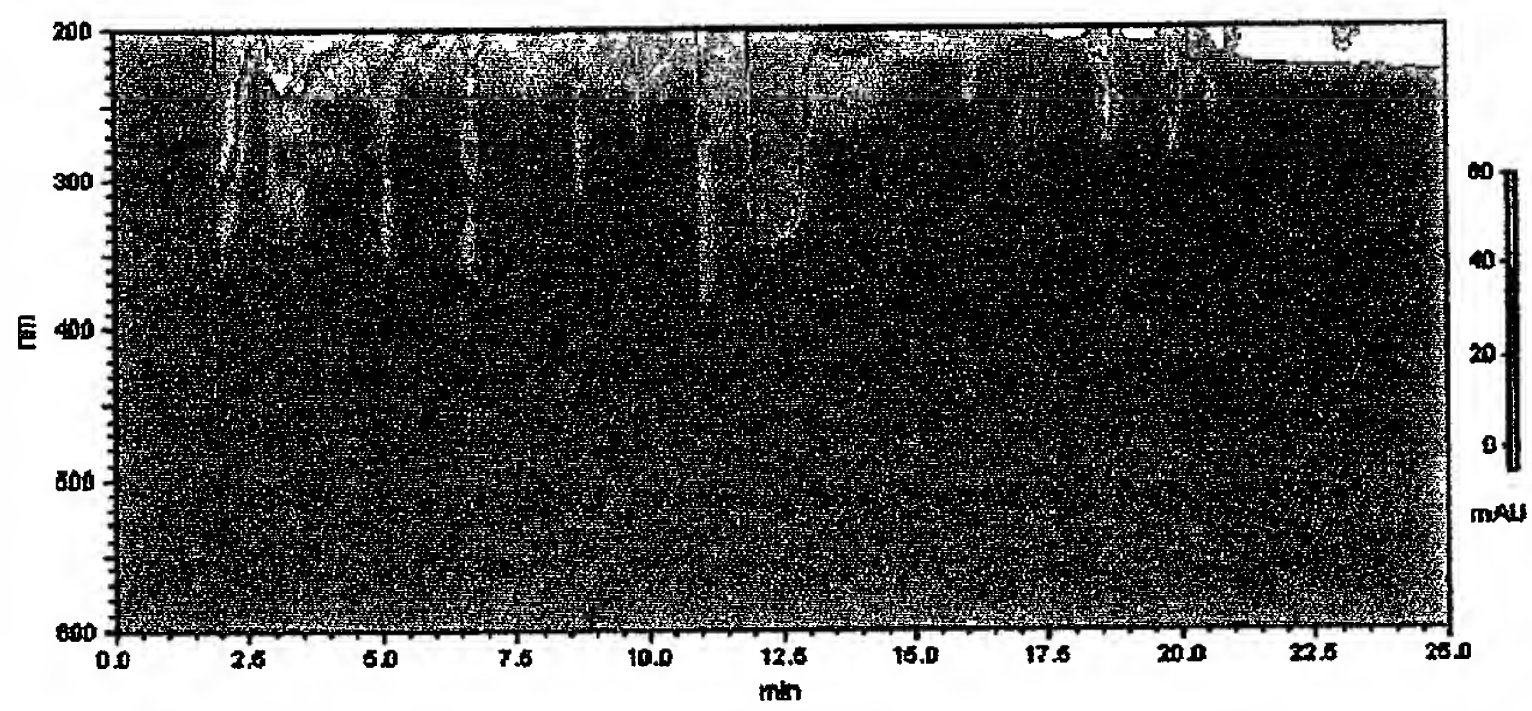
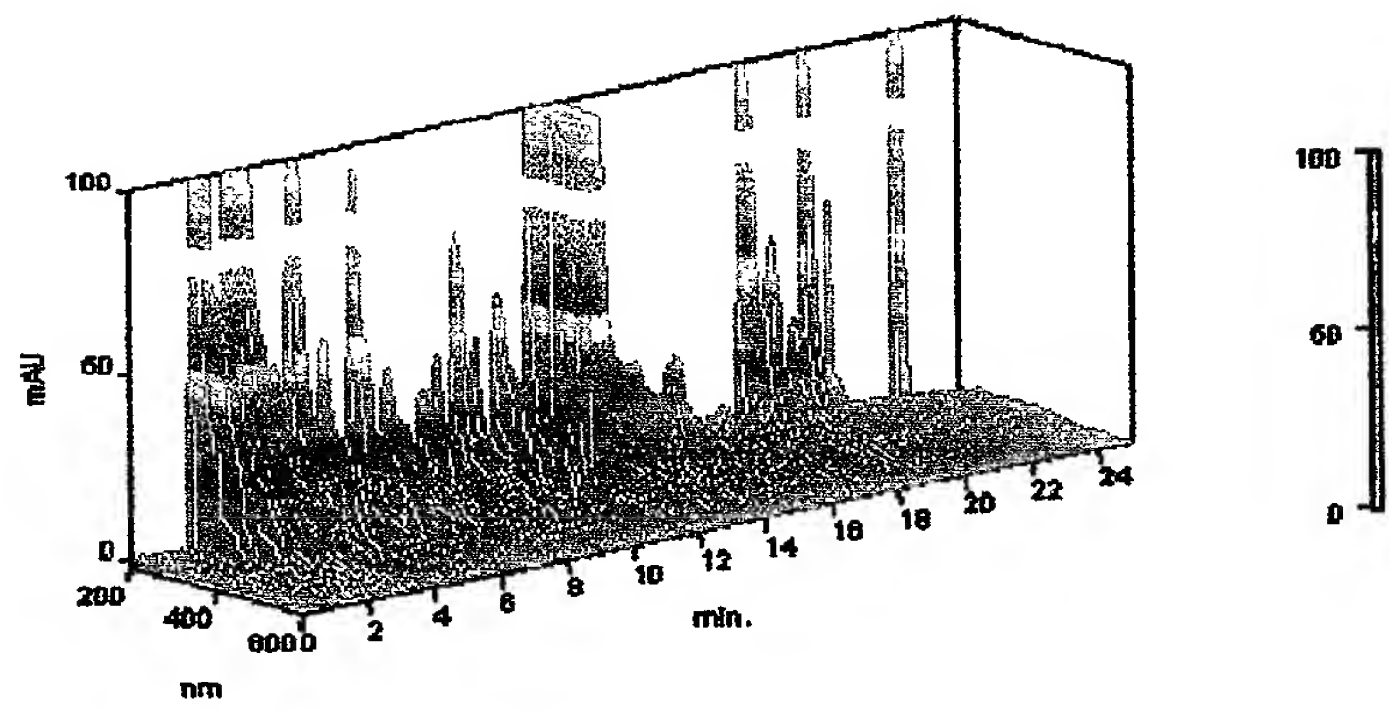


Figure 36

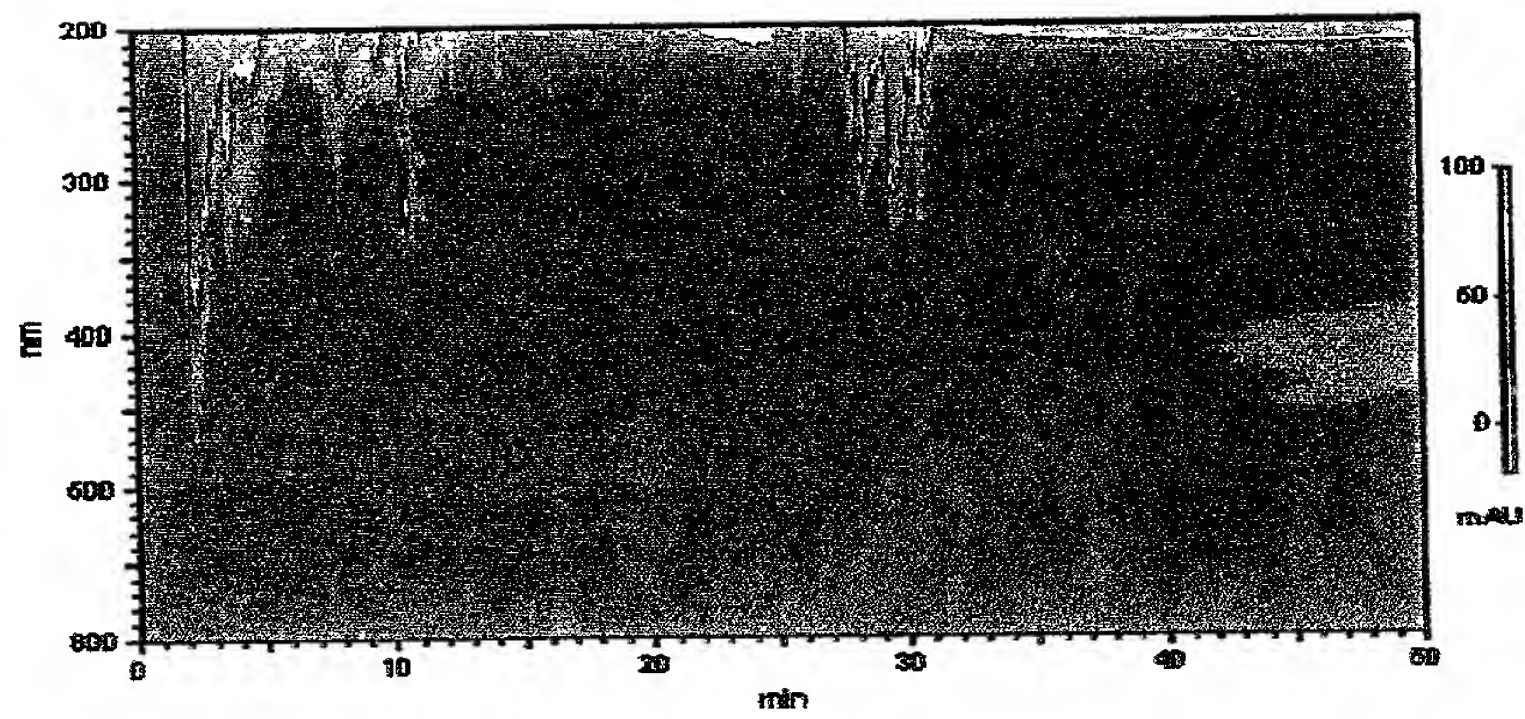
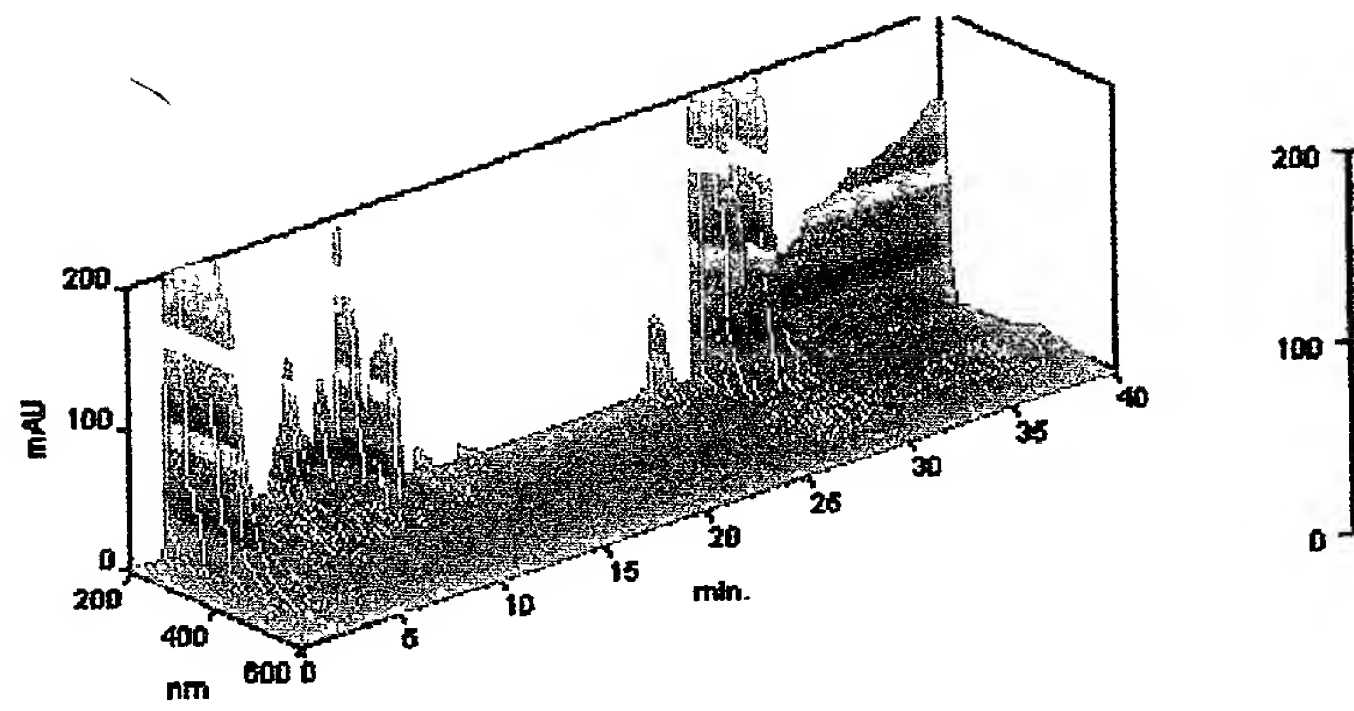




Figure 37

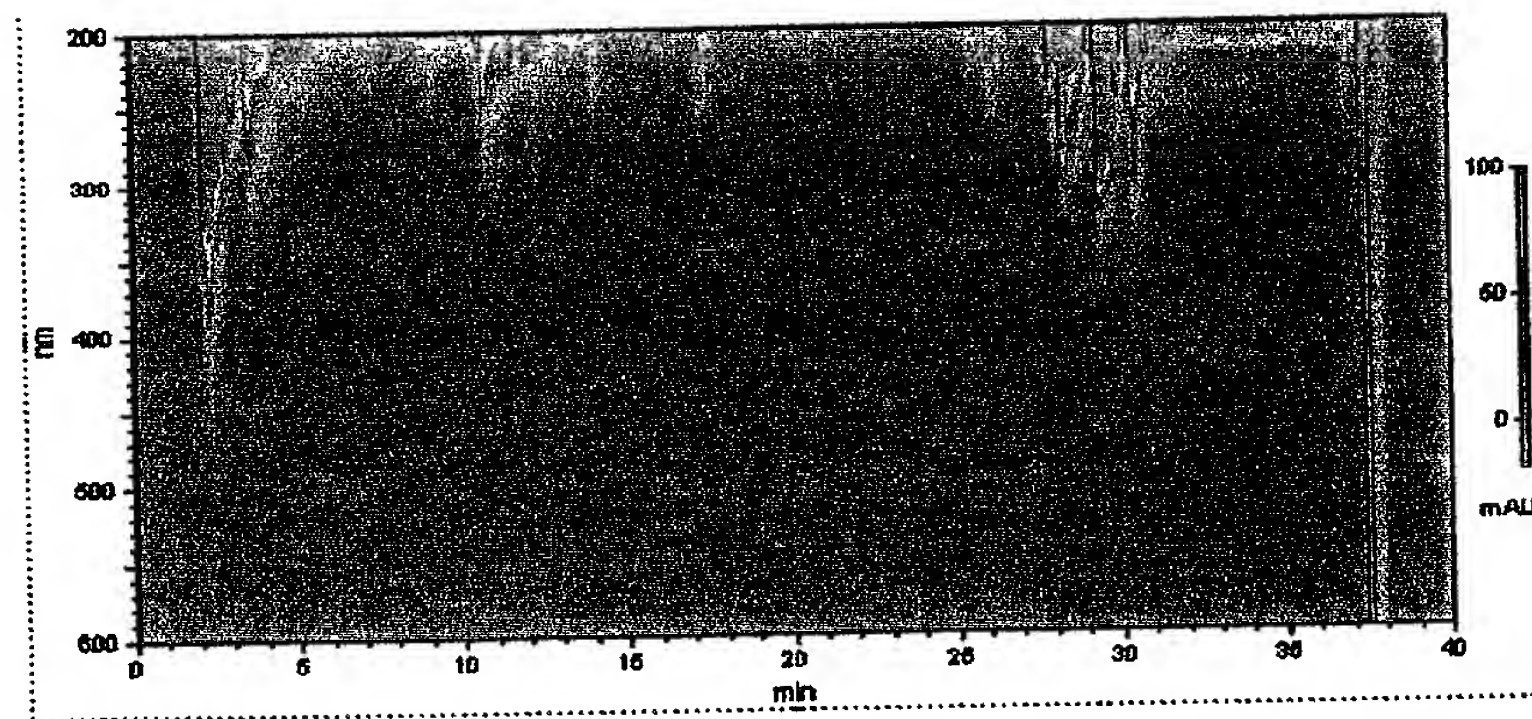
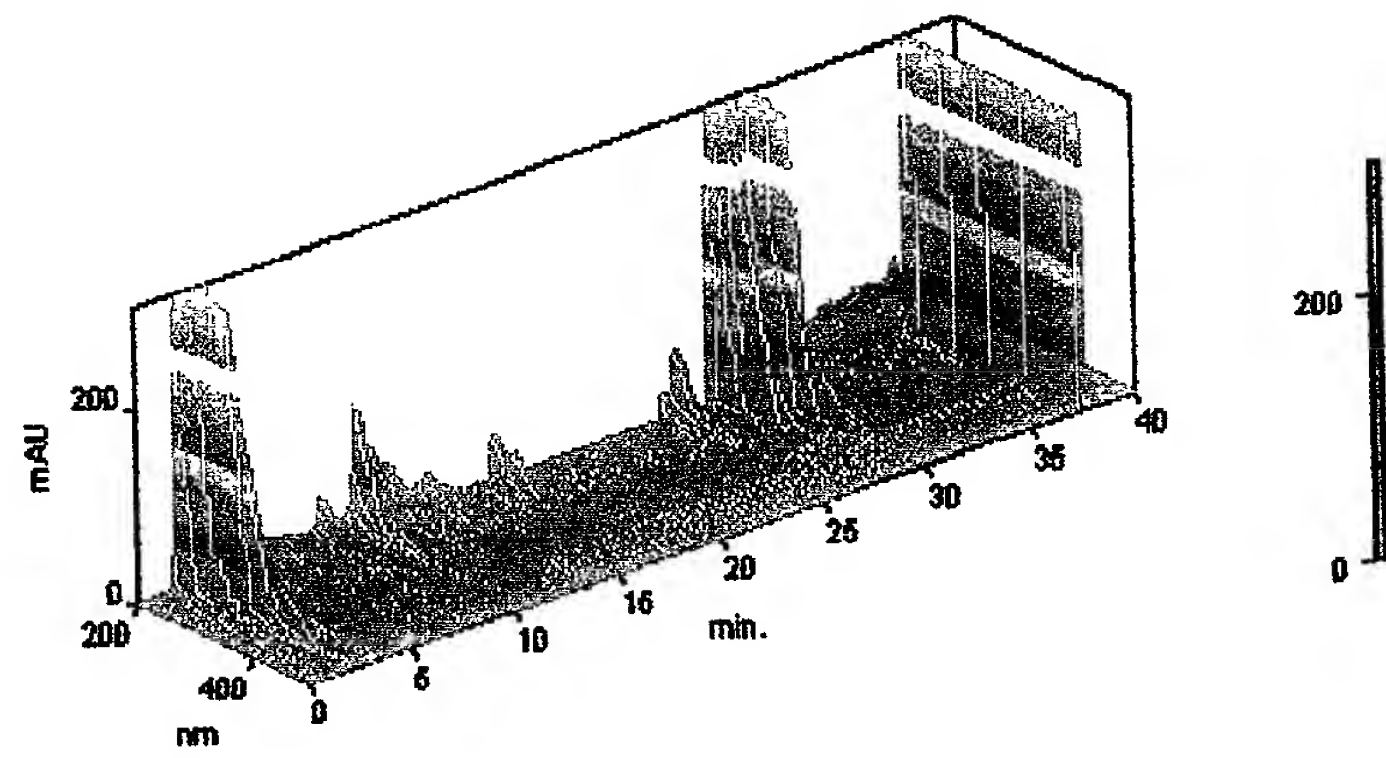


Figure 38

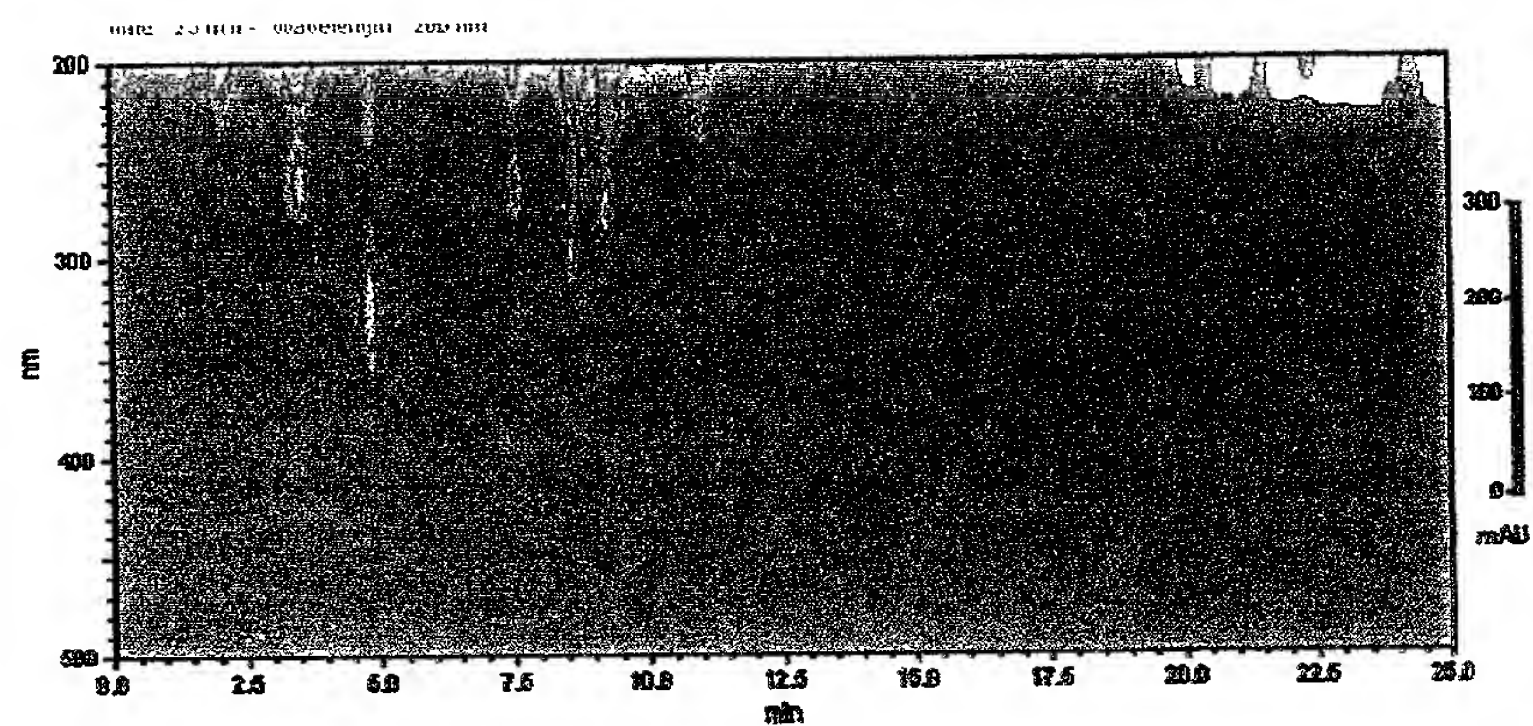
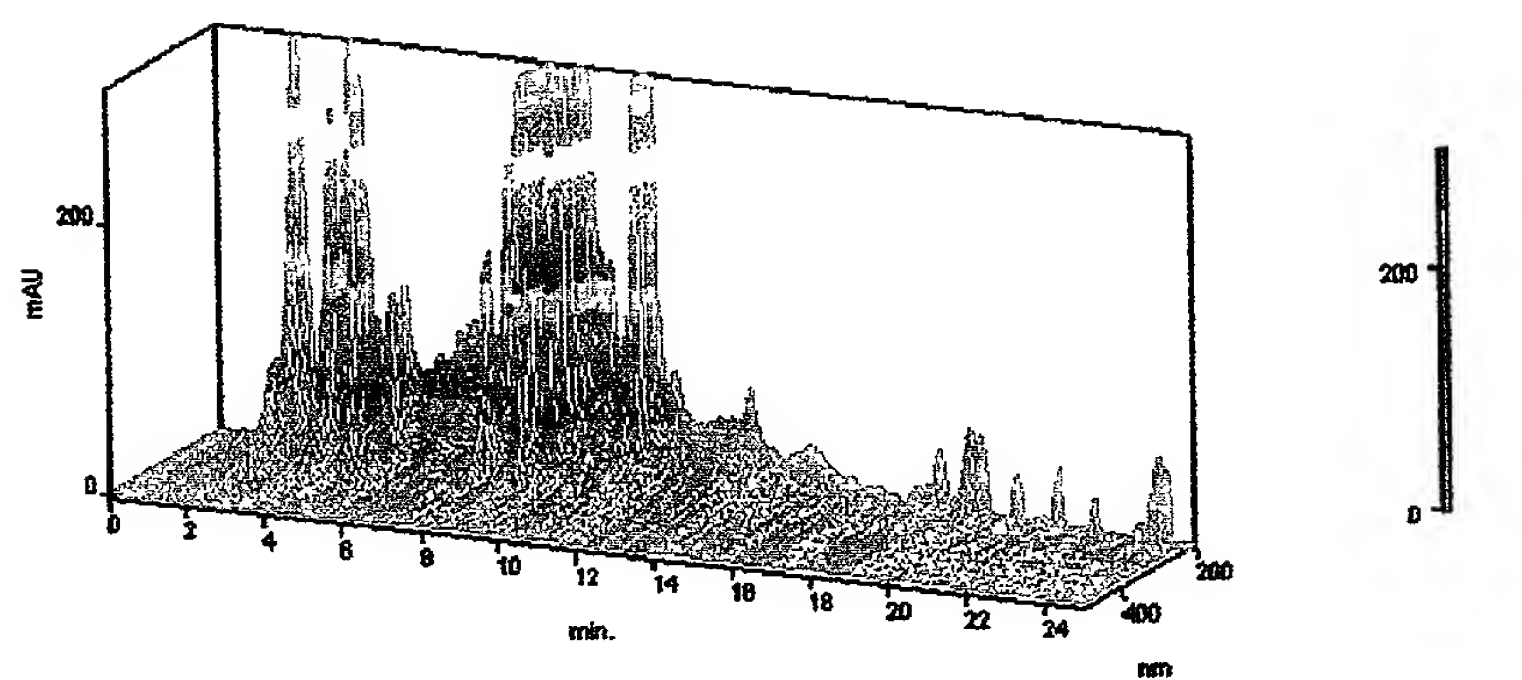


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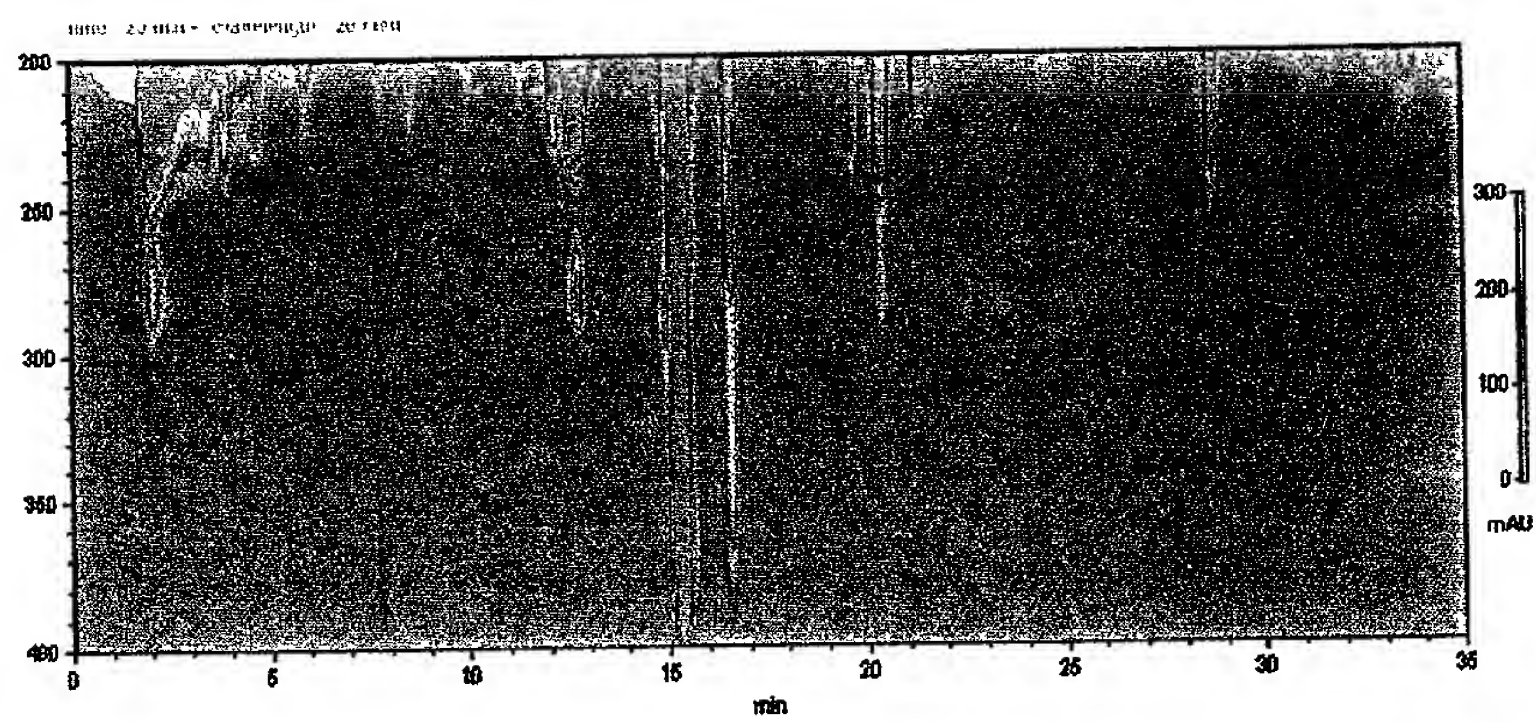
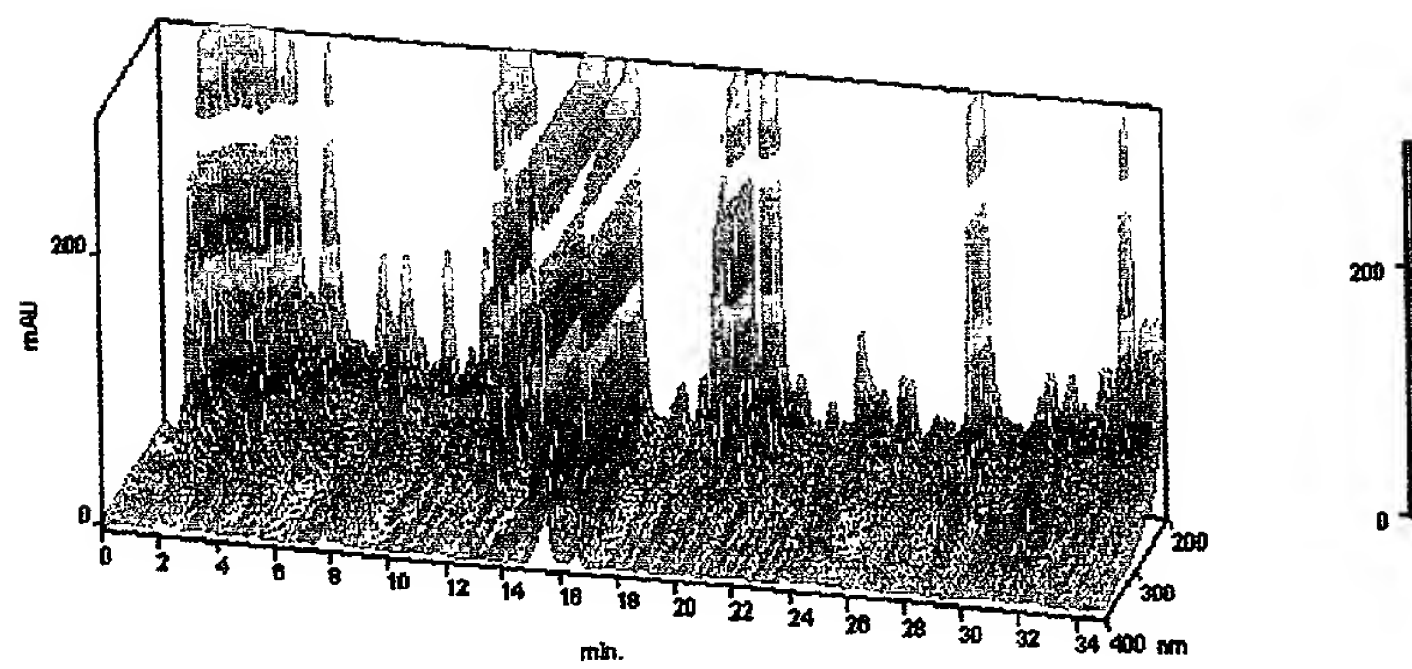


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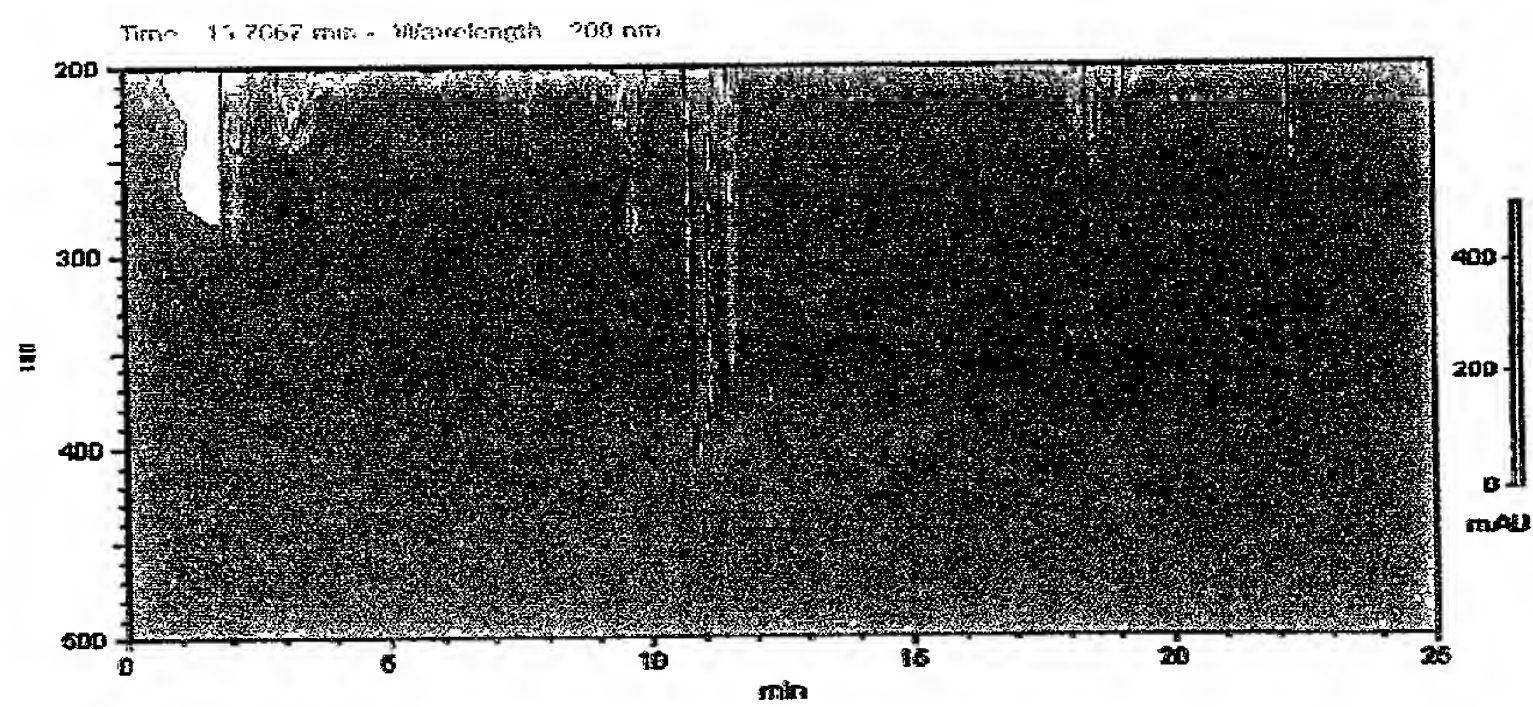
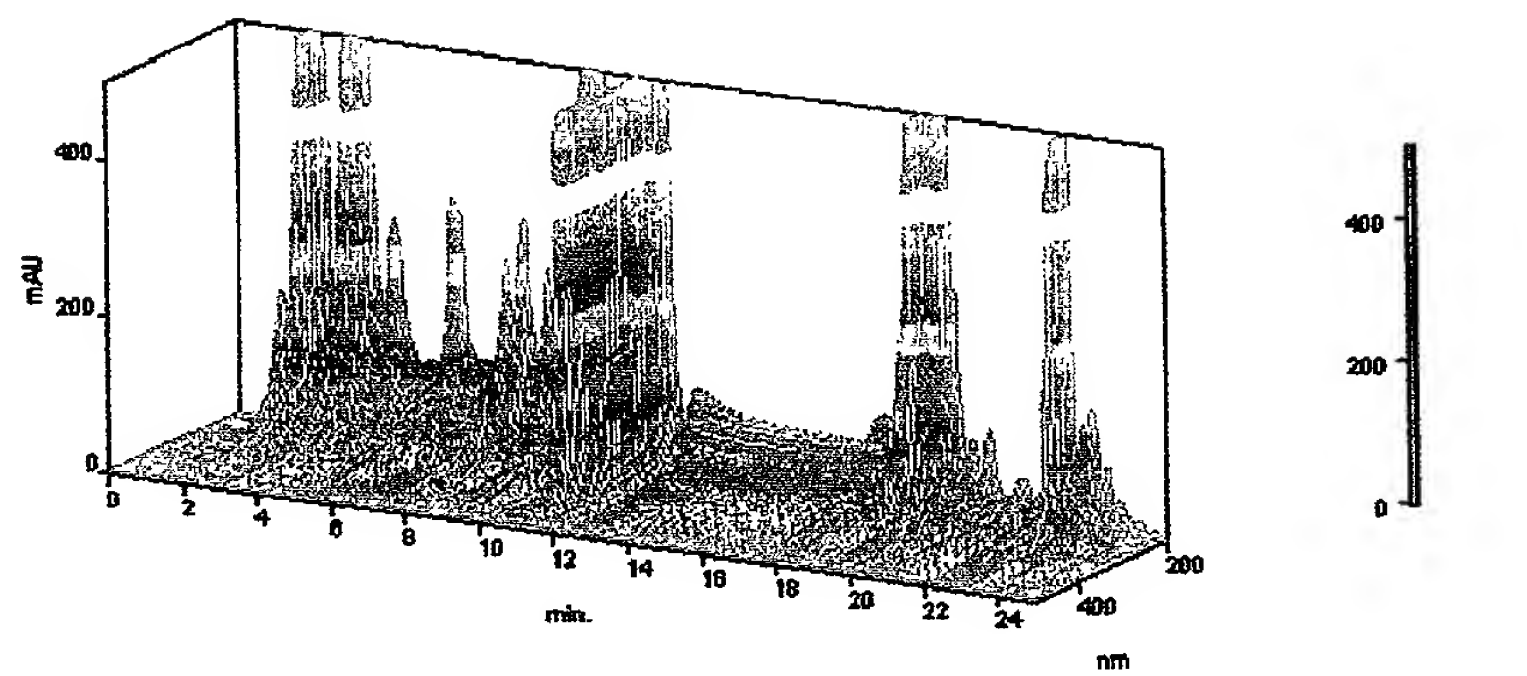


Figure 41

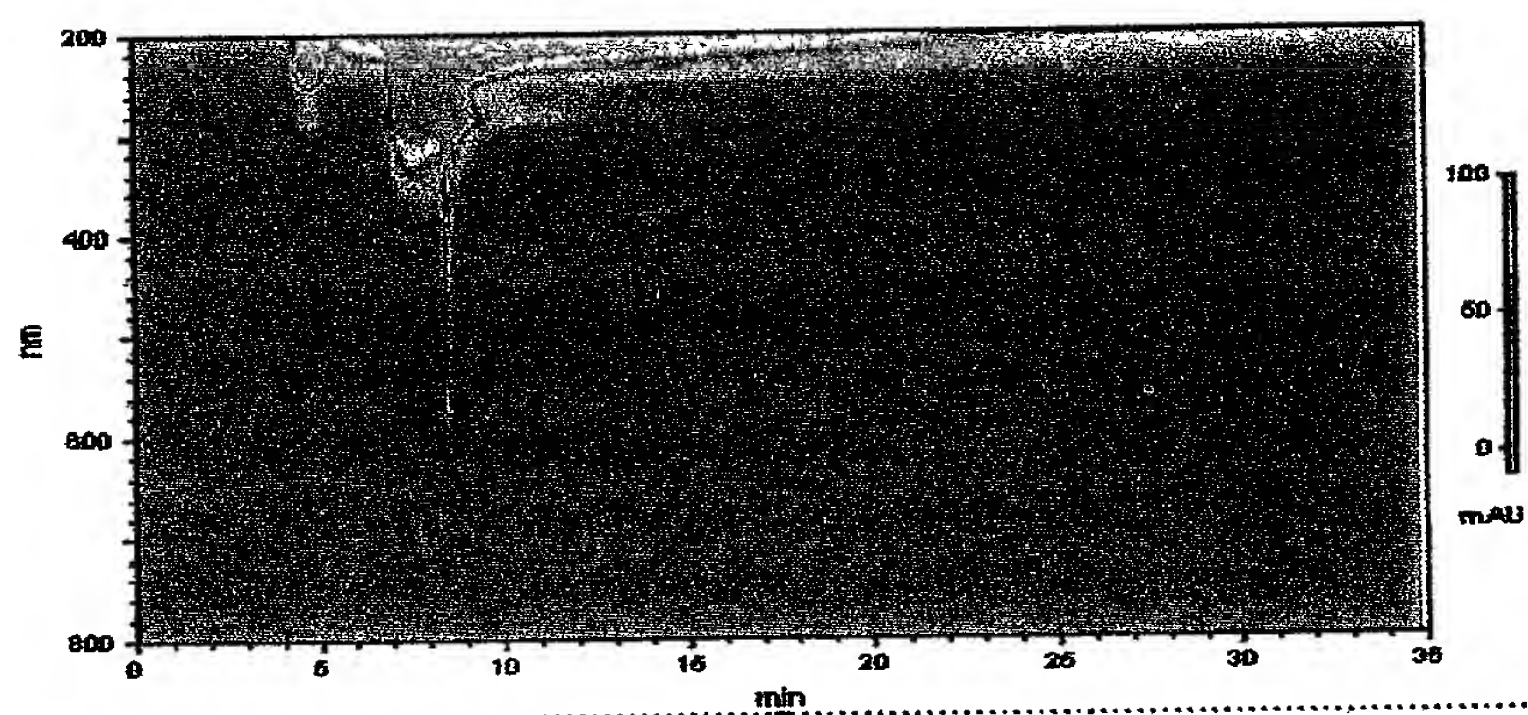
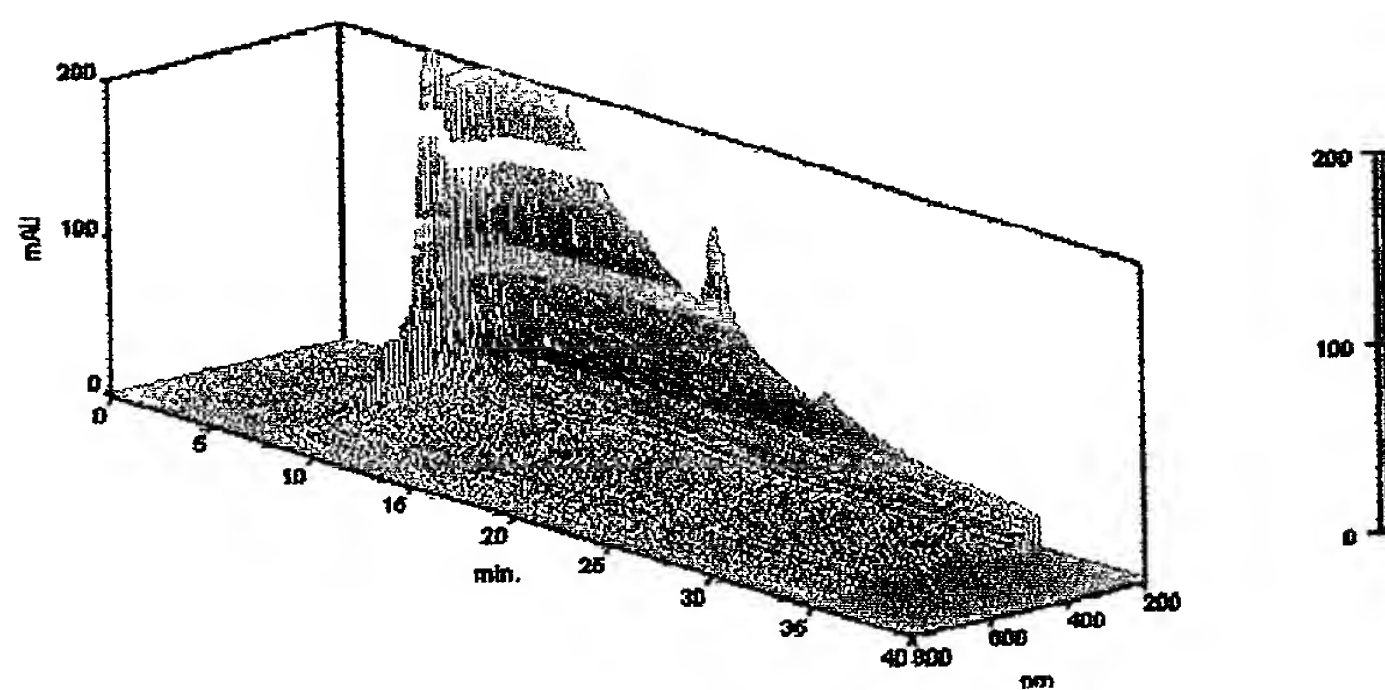




Figure 42

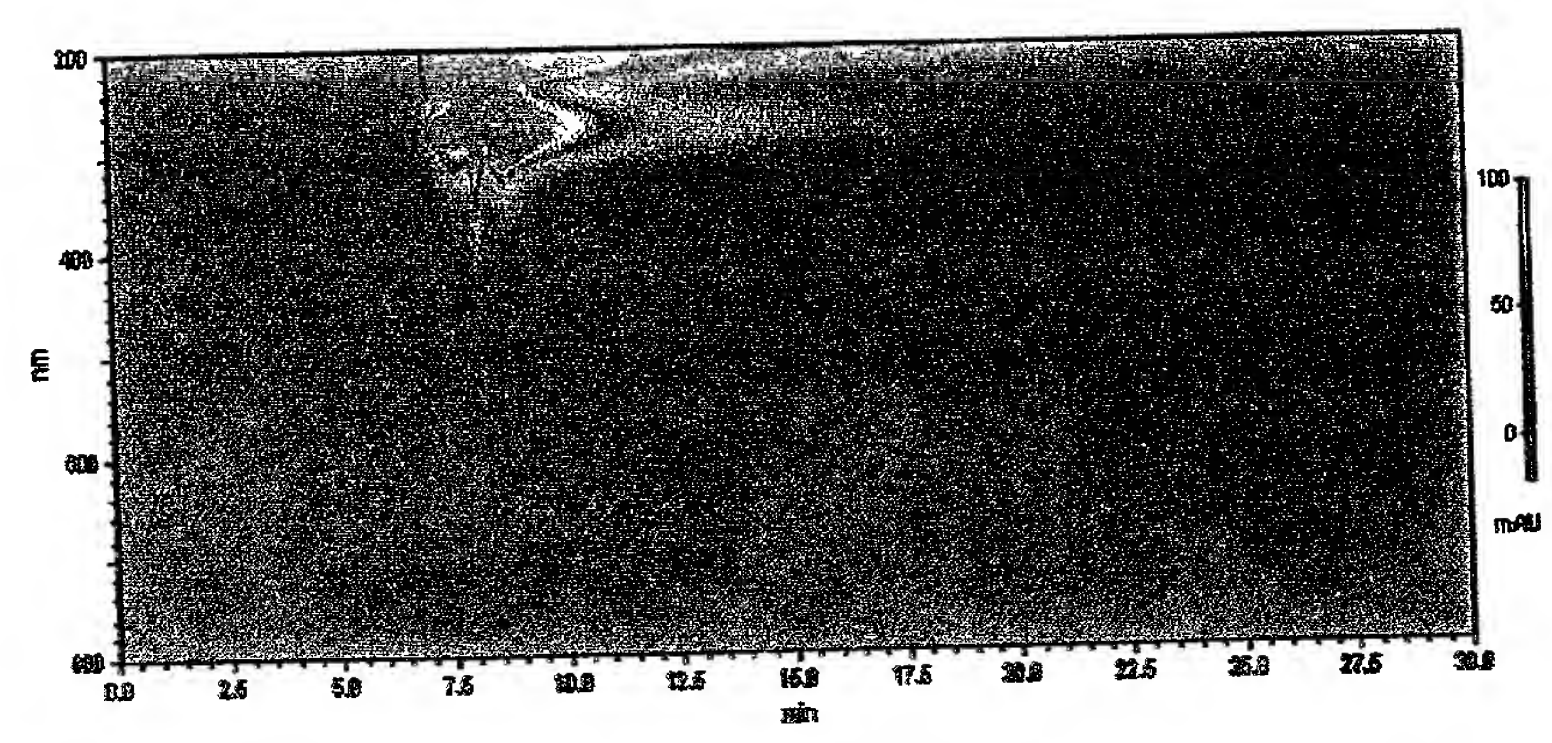
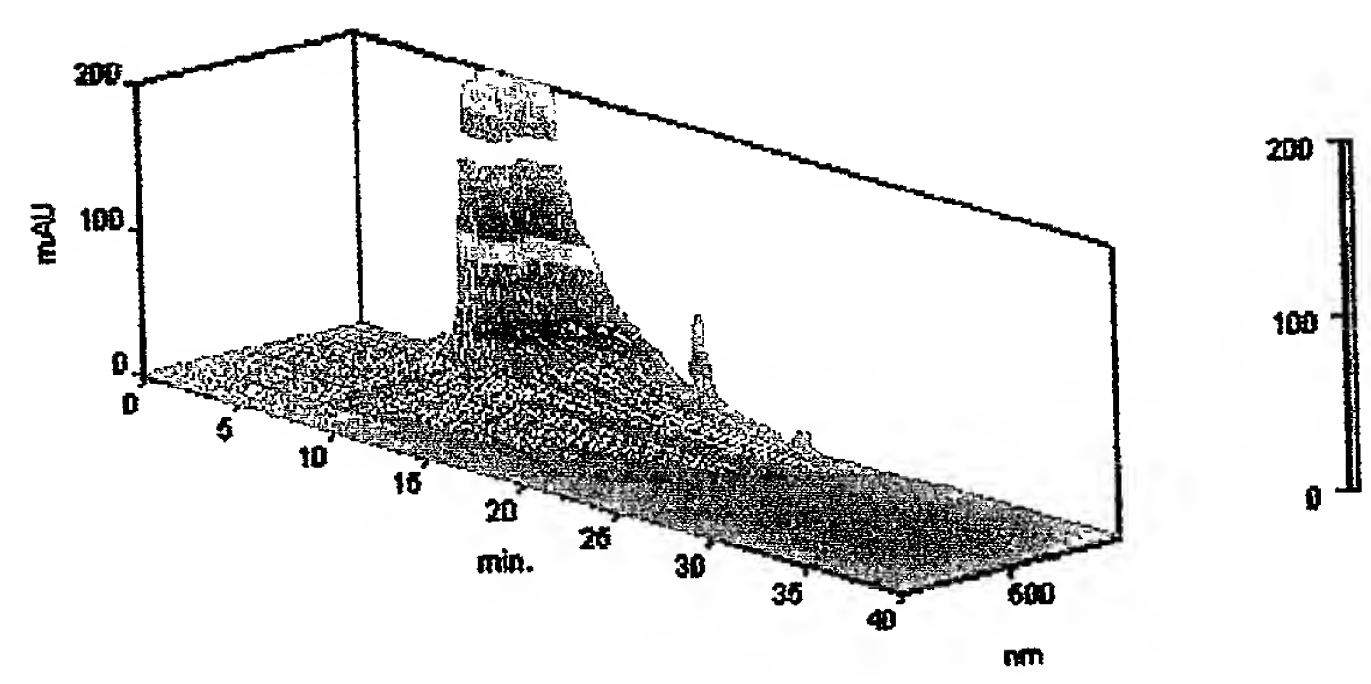


Figure 43

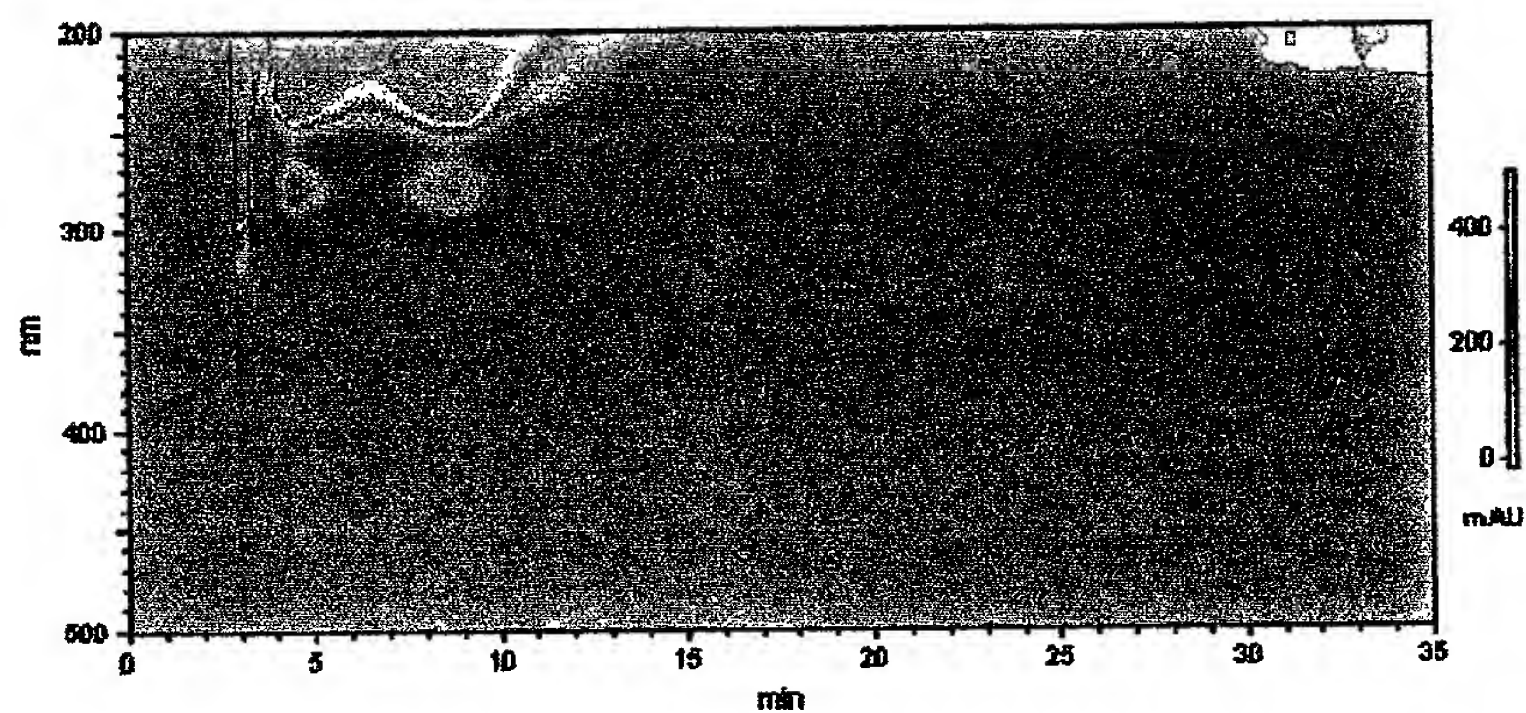
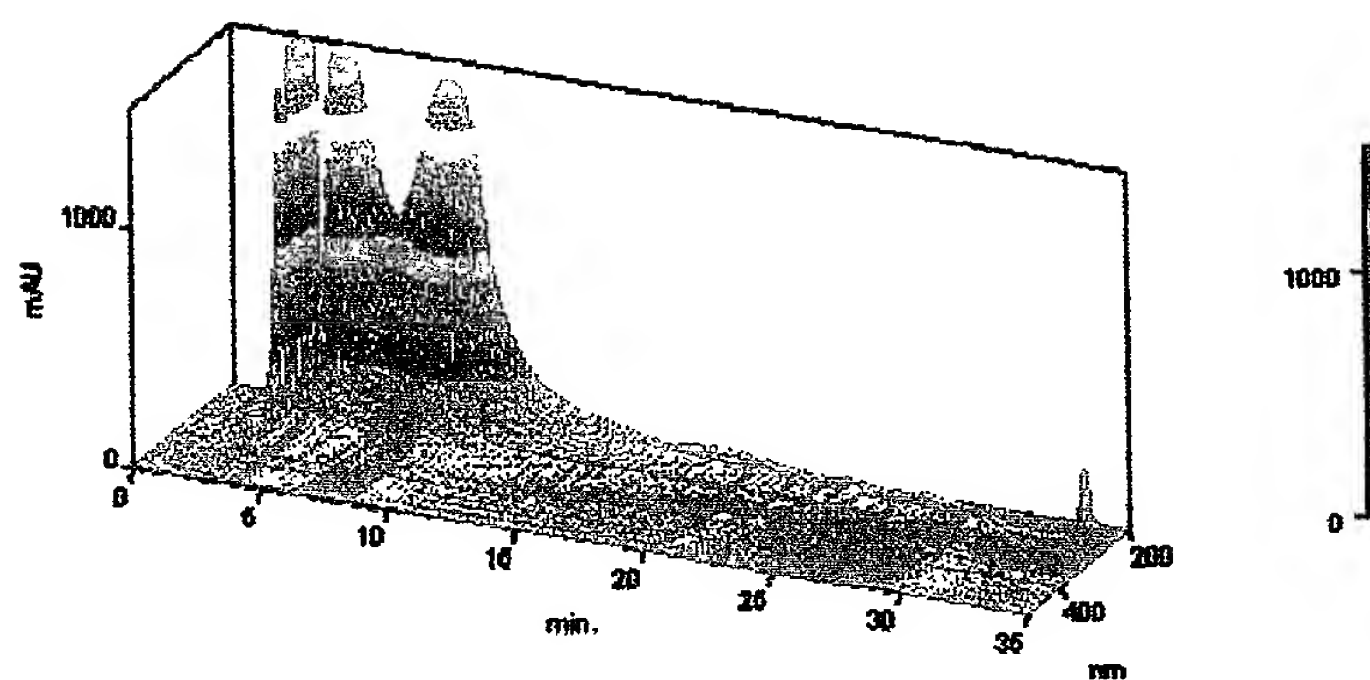


Figure 44

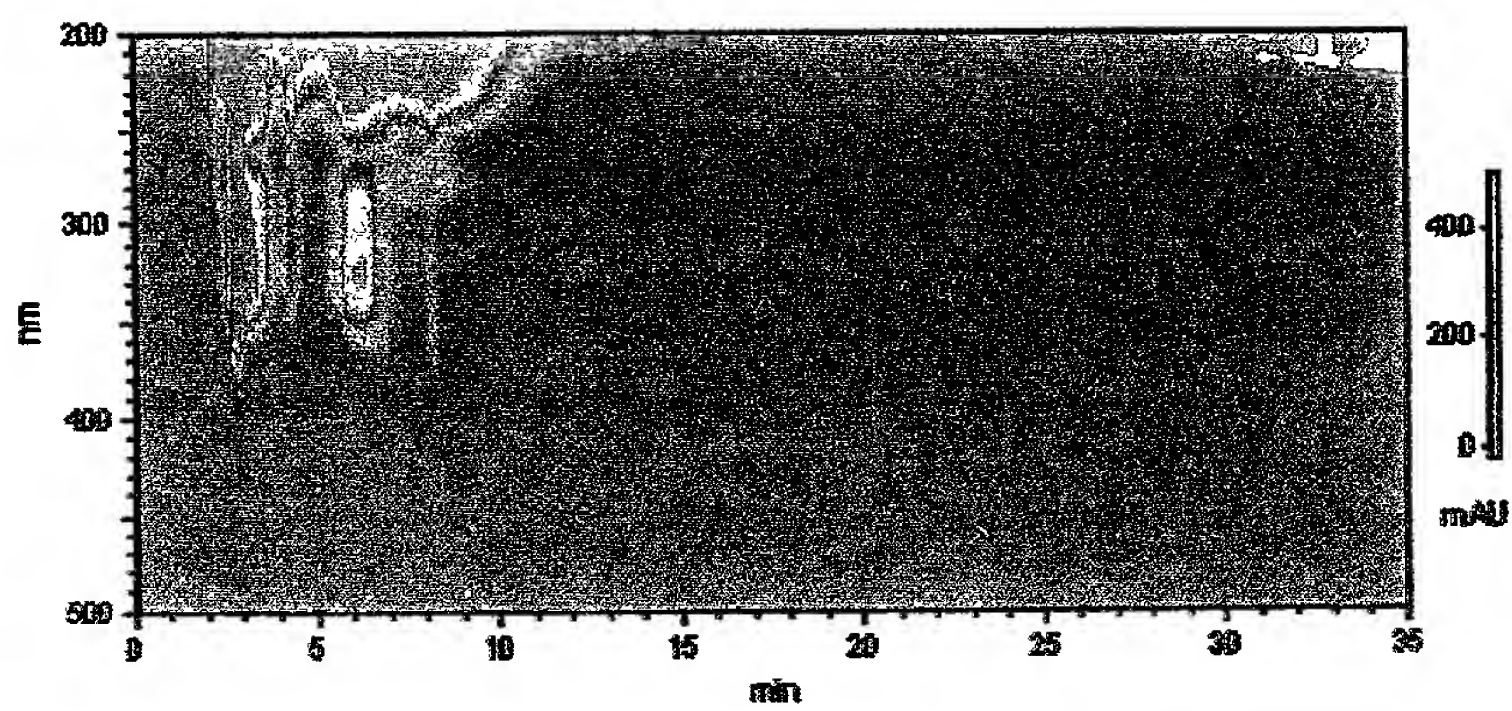
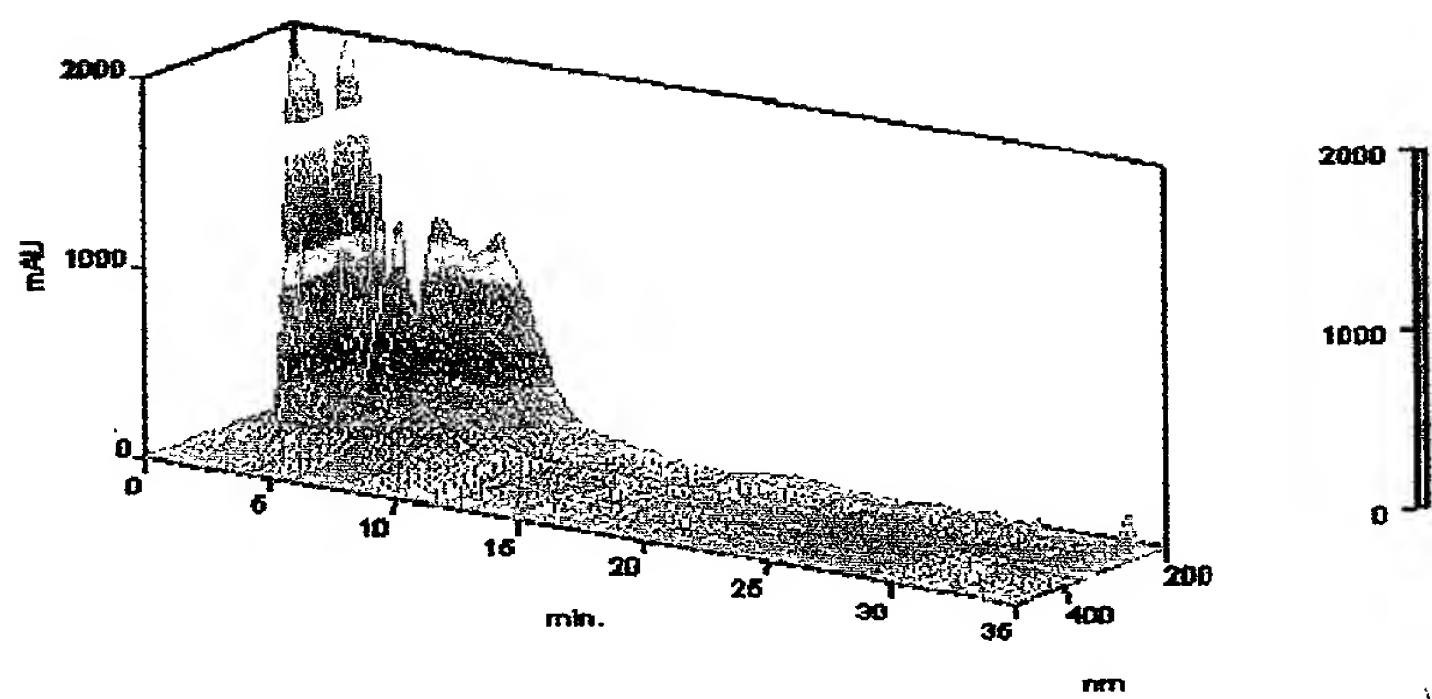


Figure 45

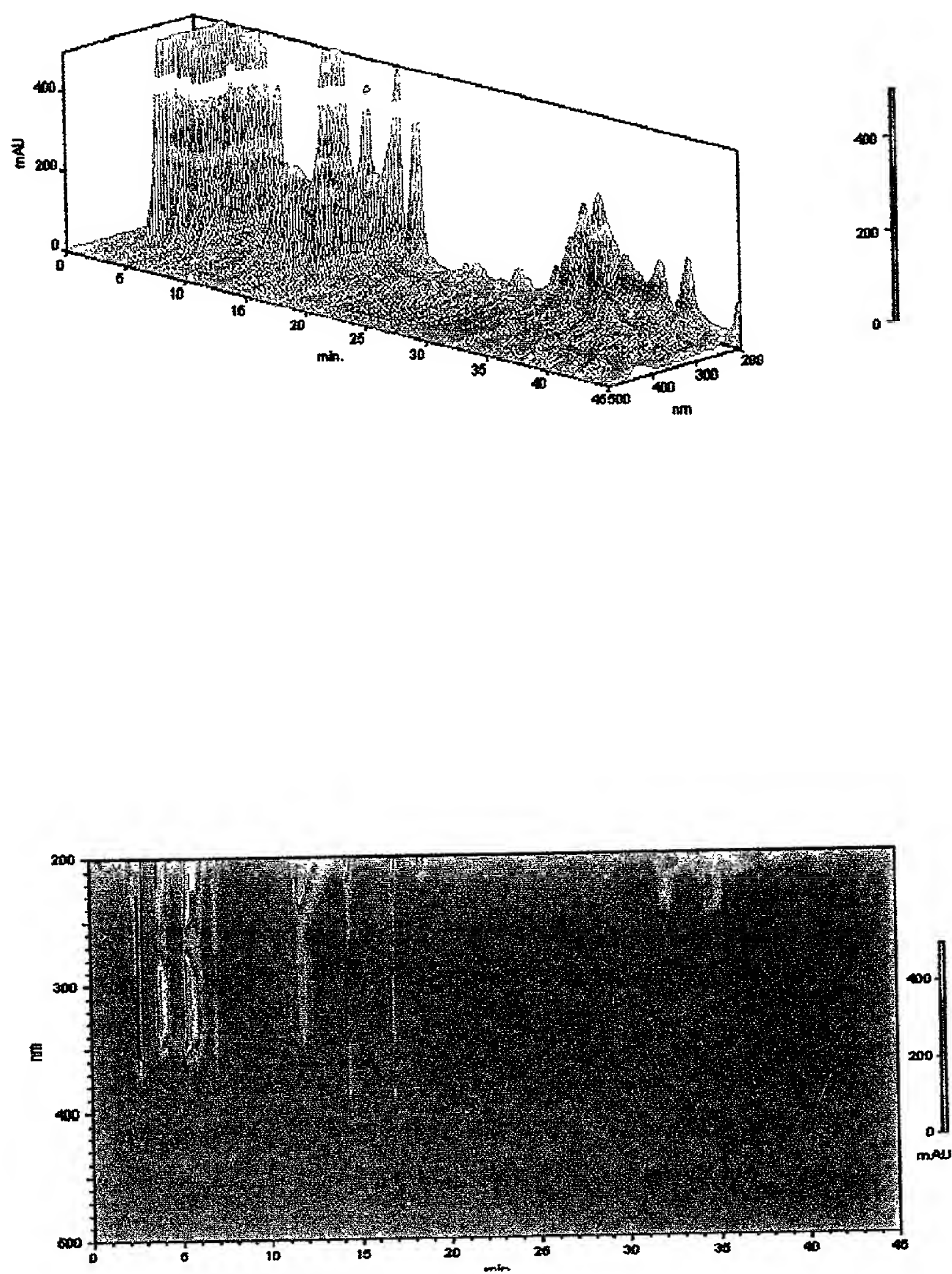


Figure 46

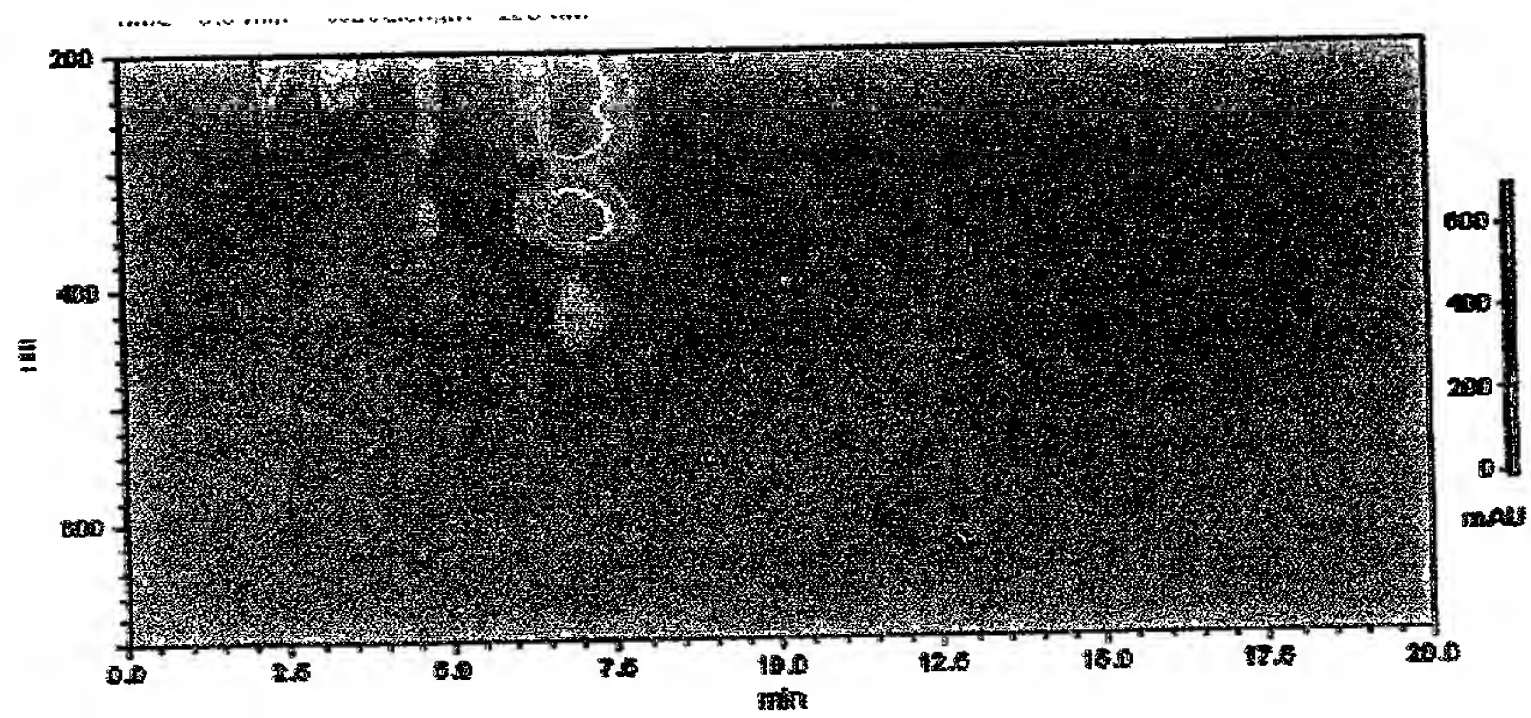
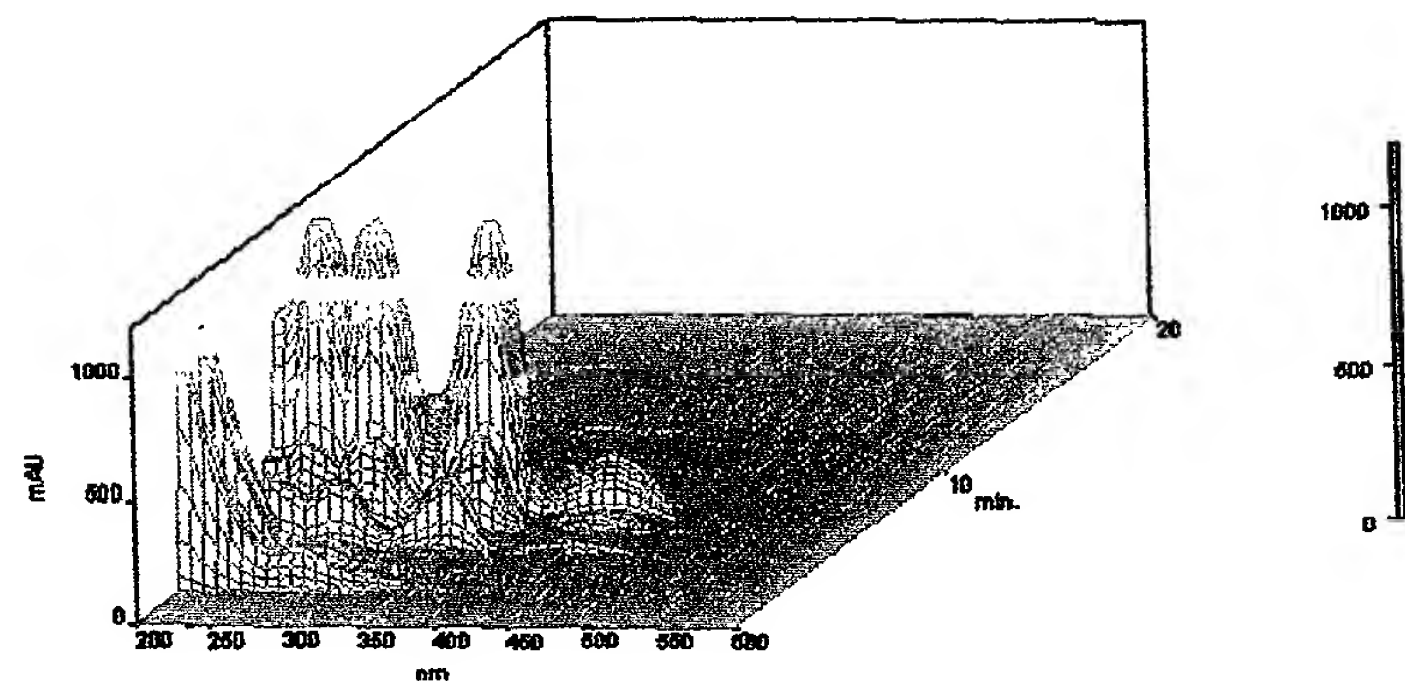




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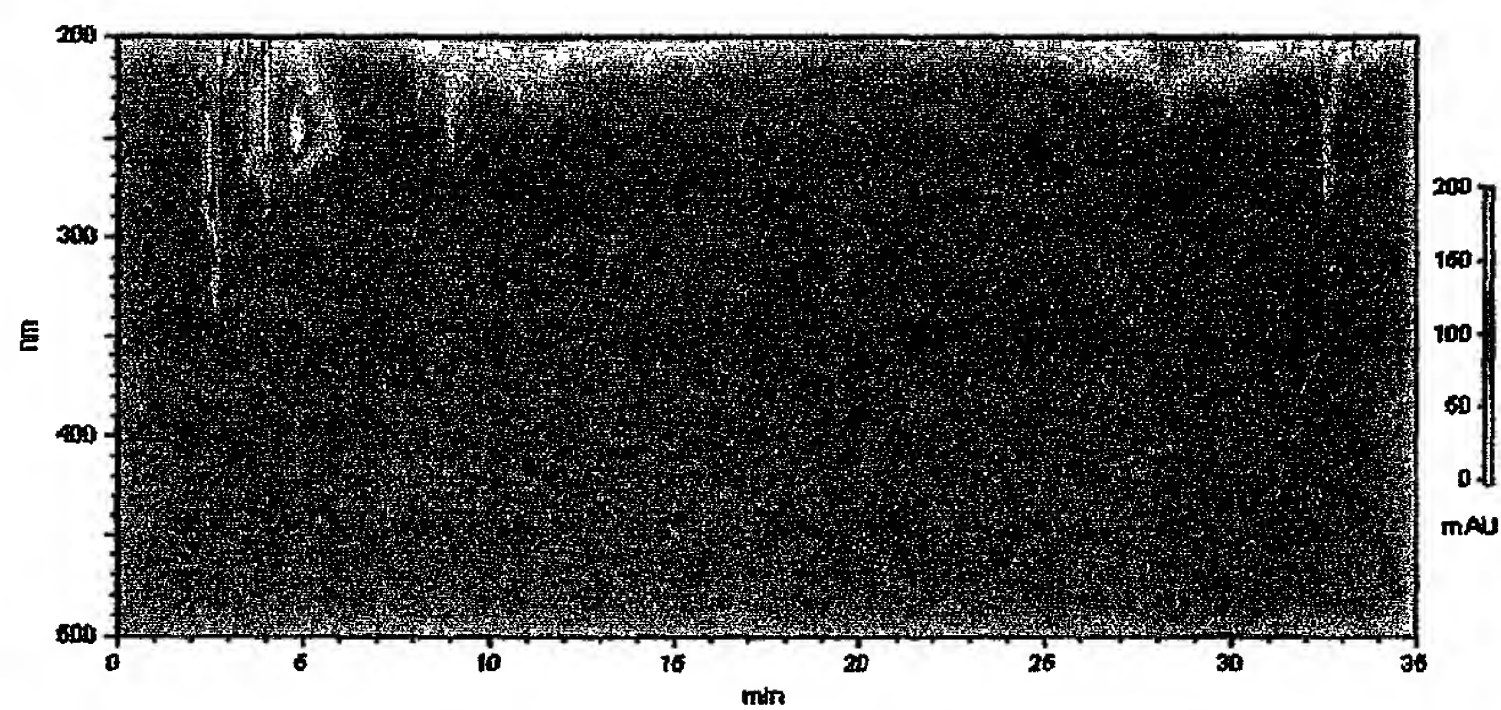
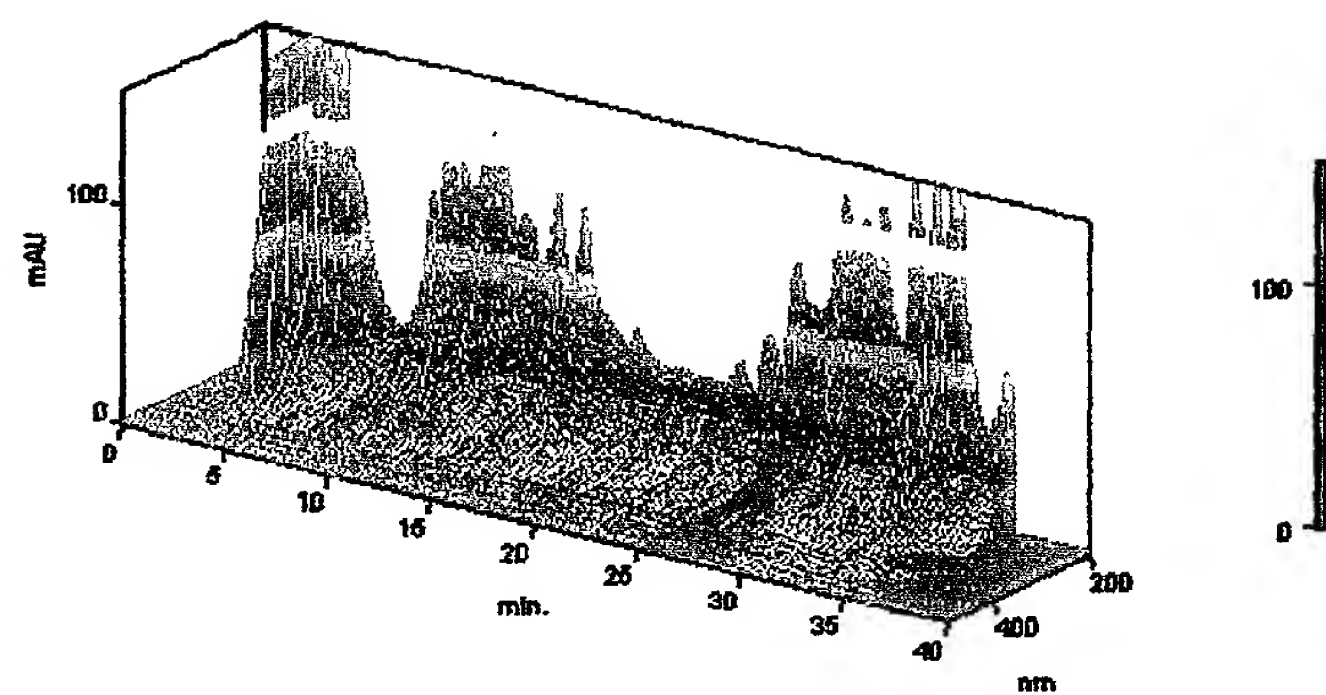


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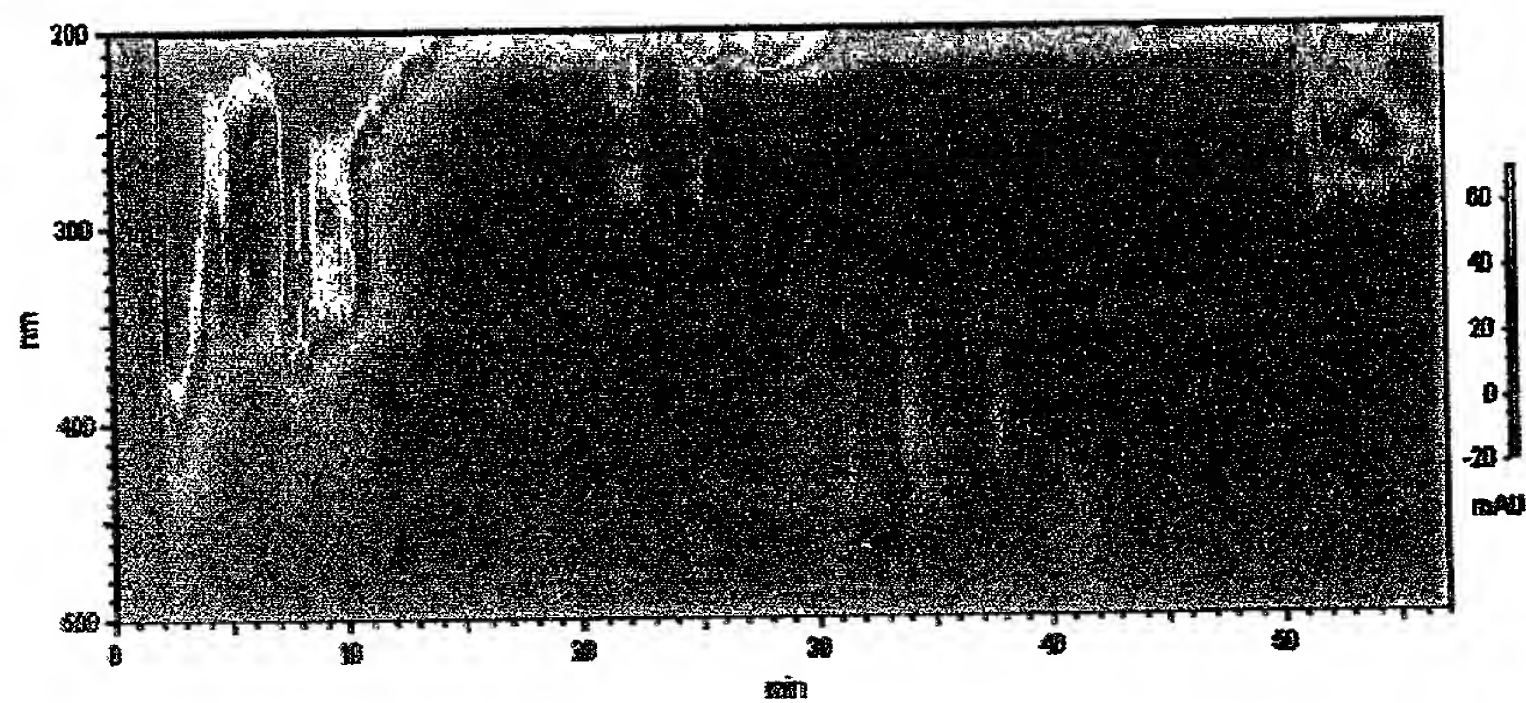
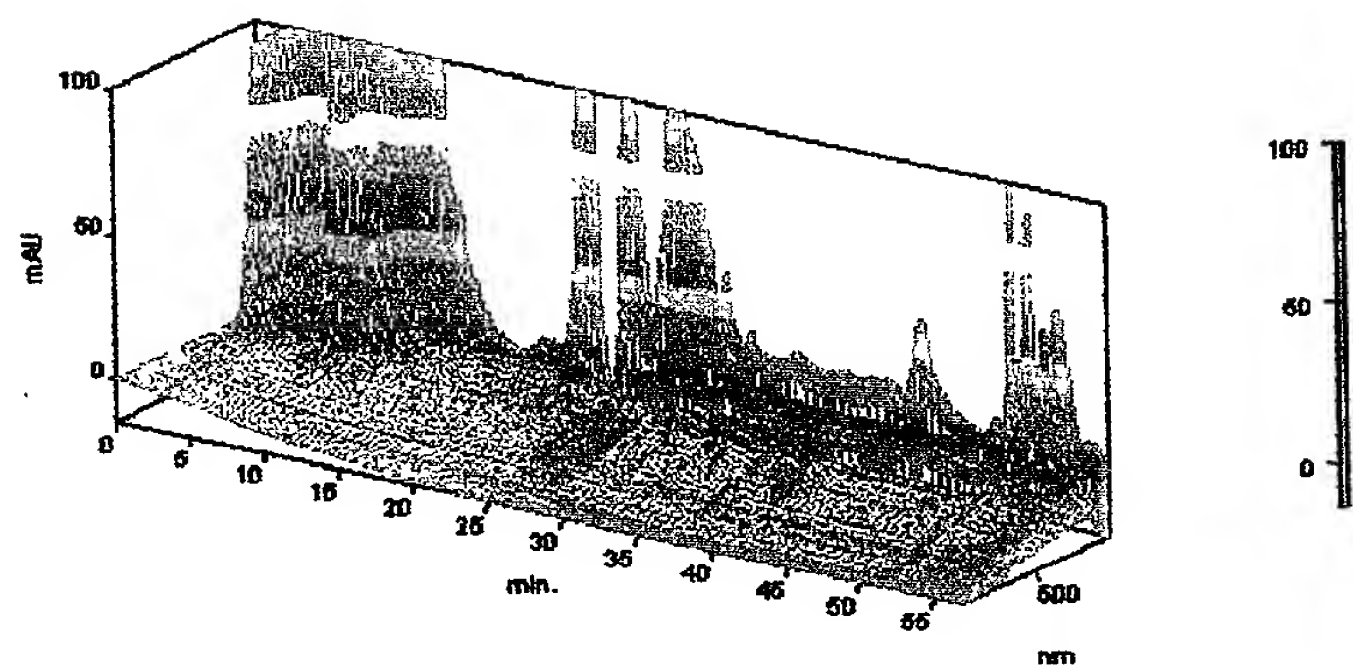


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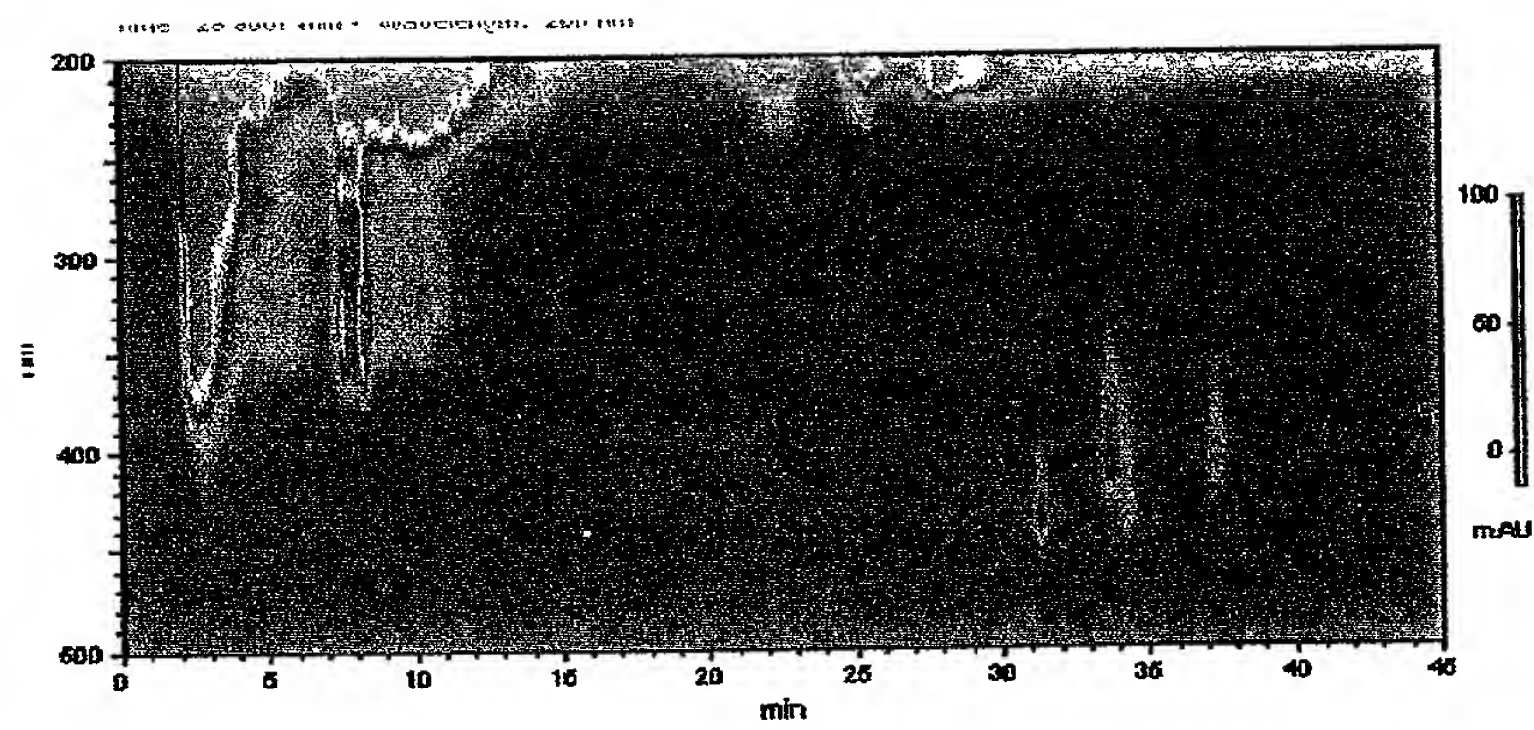
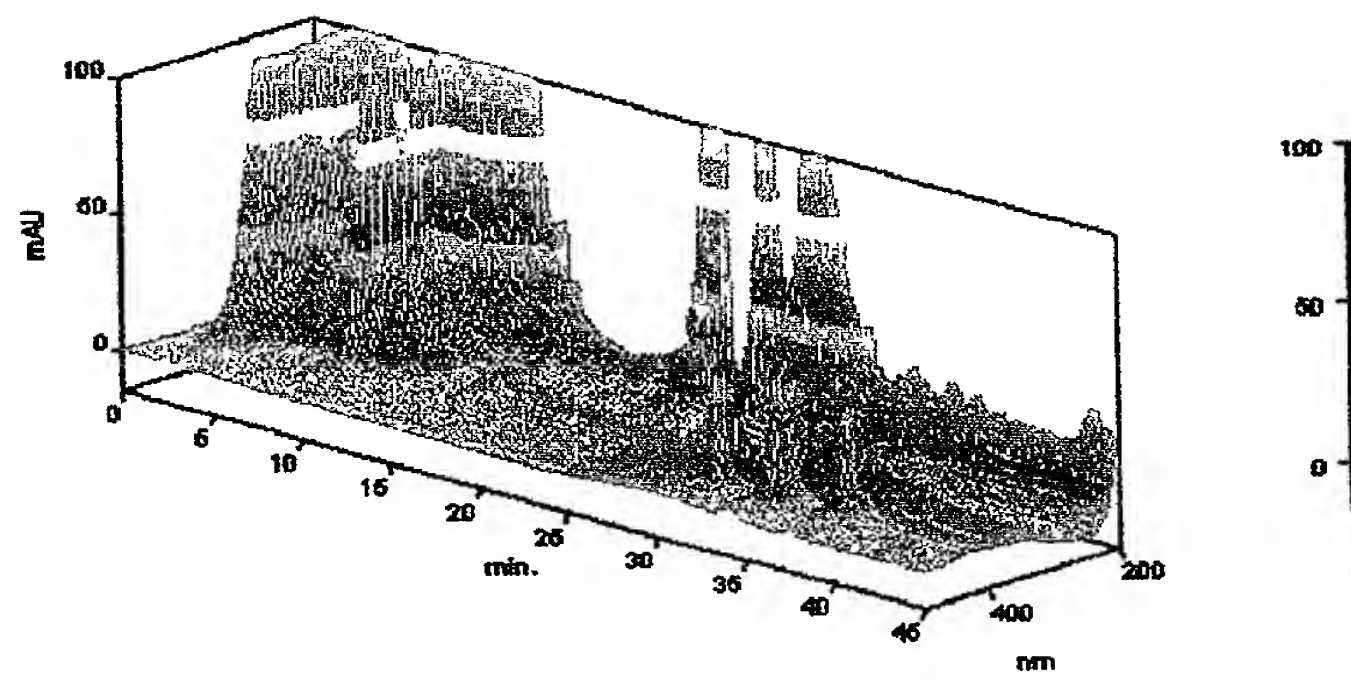


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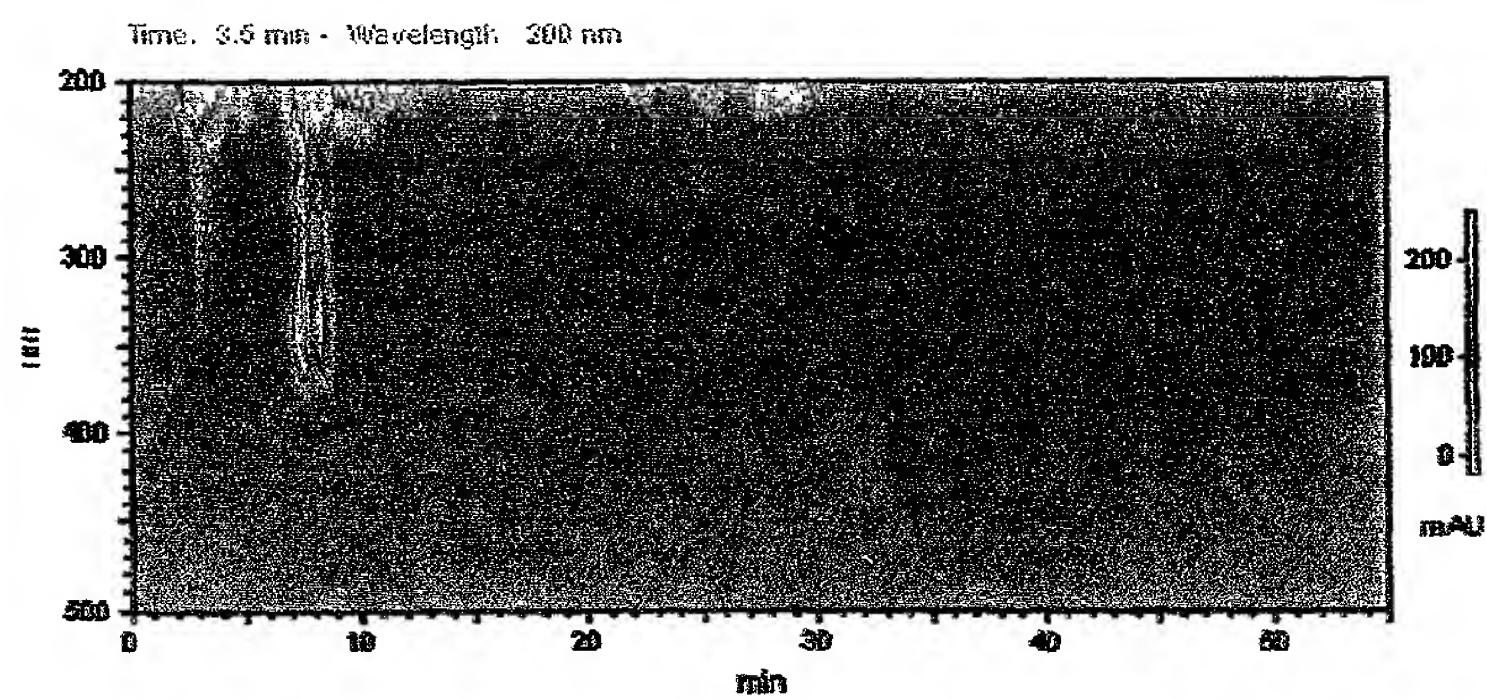
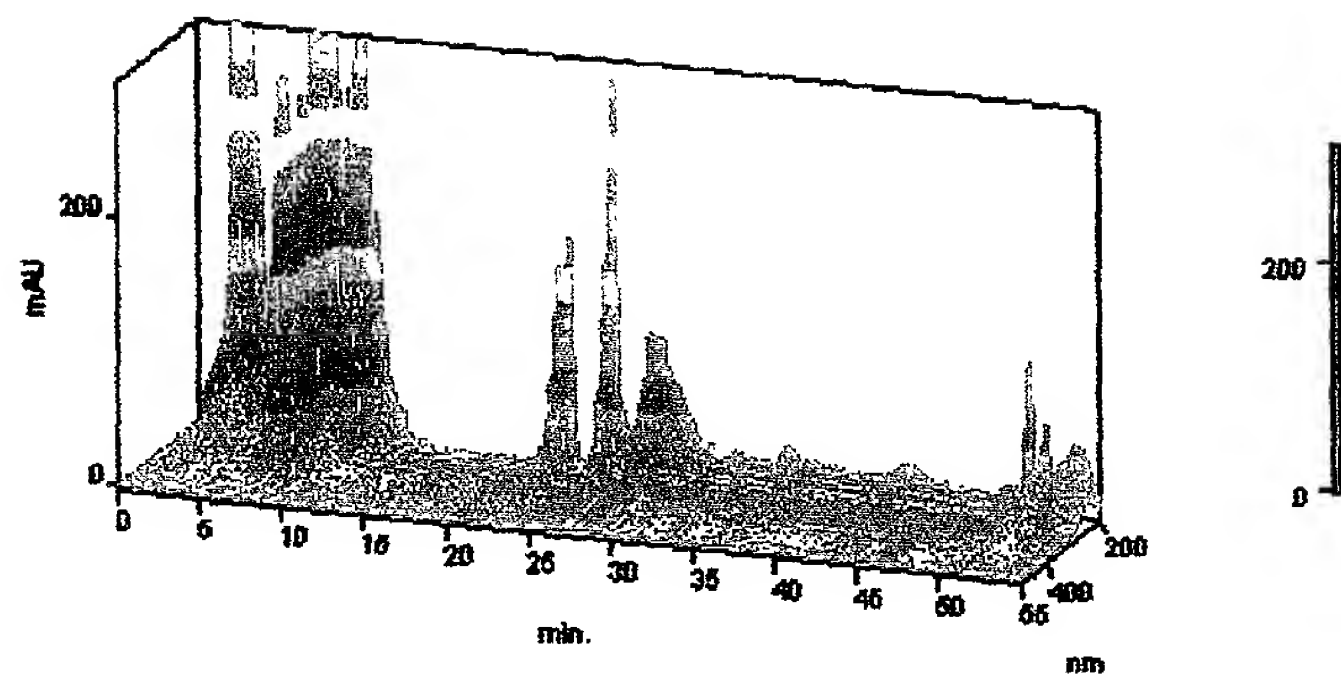


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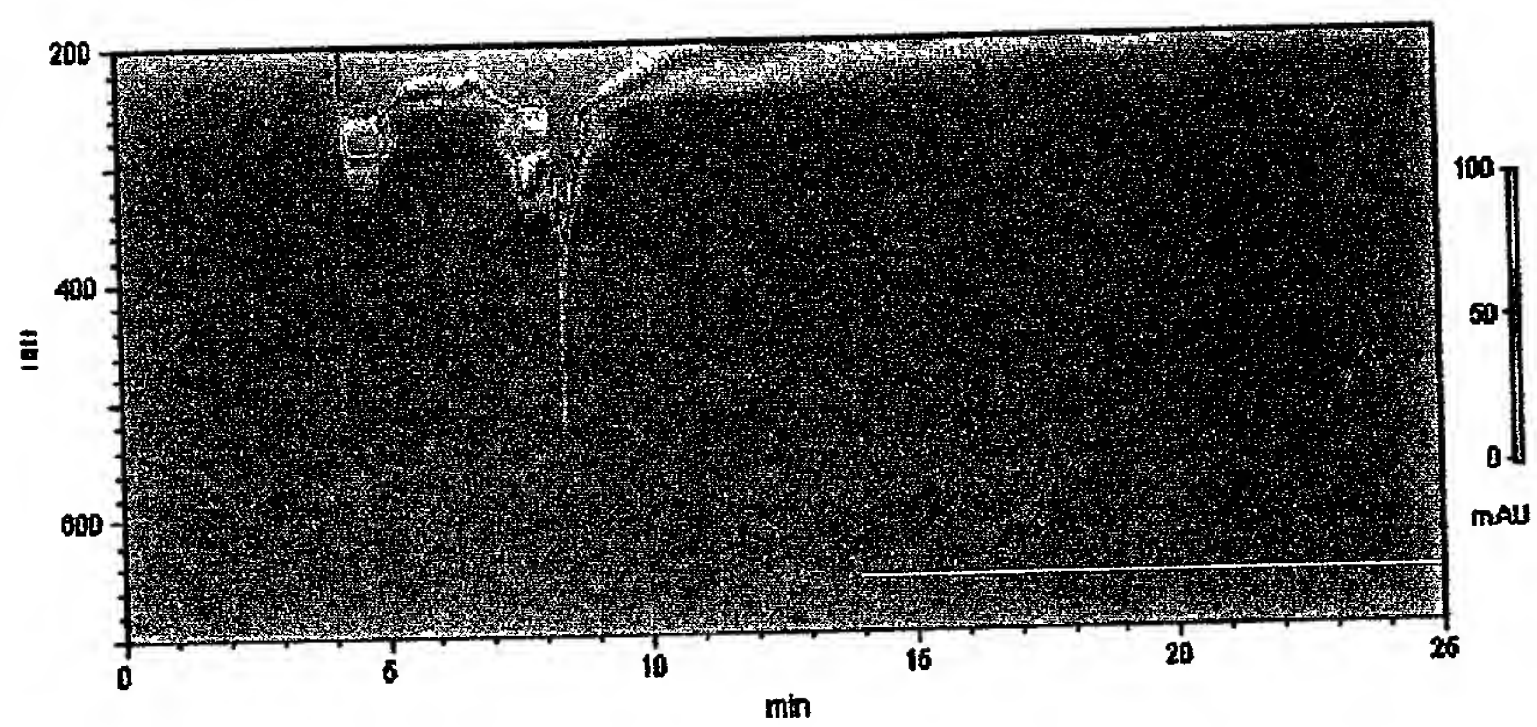
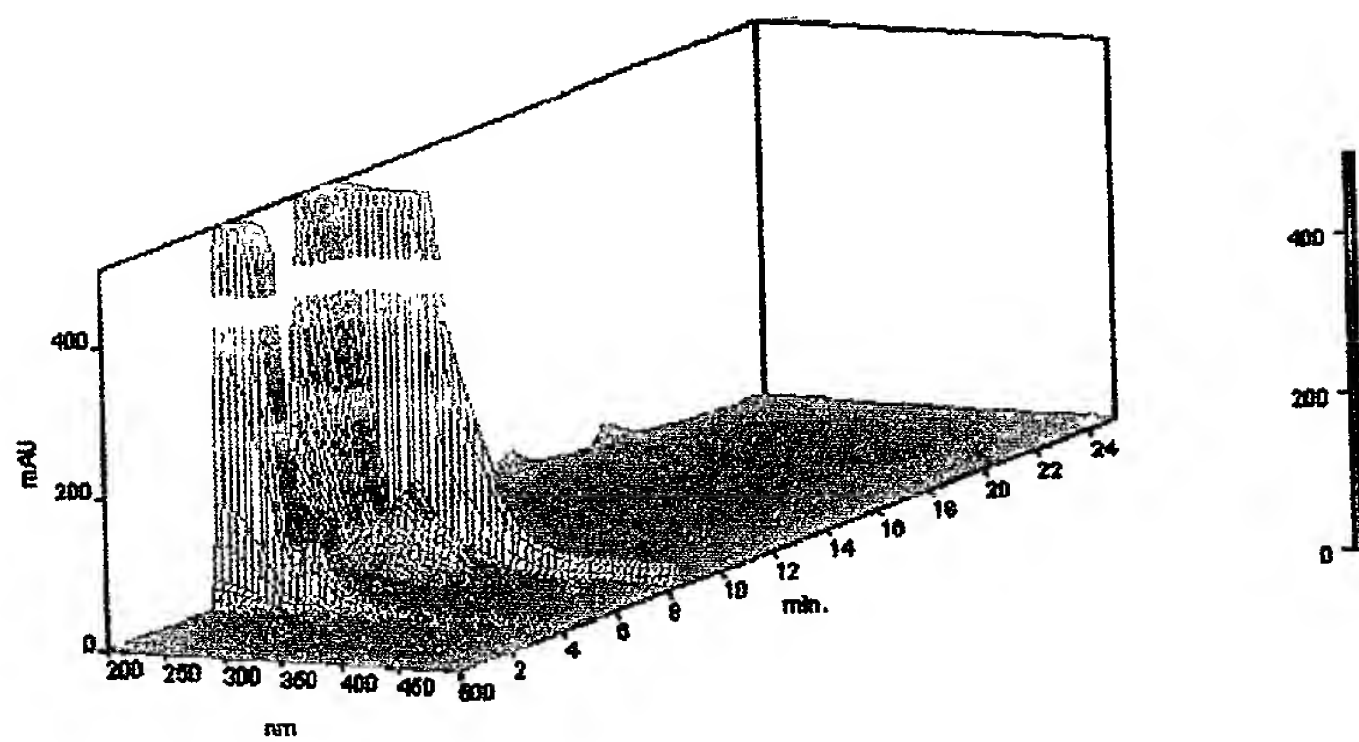




Figure 52

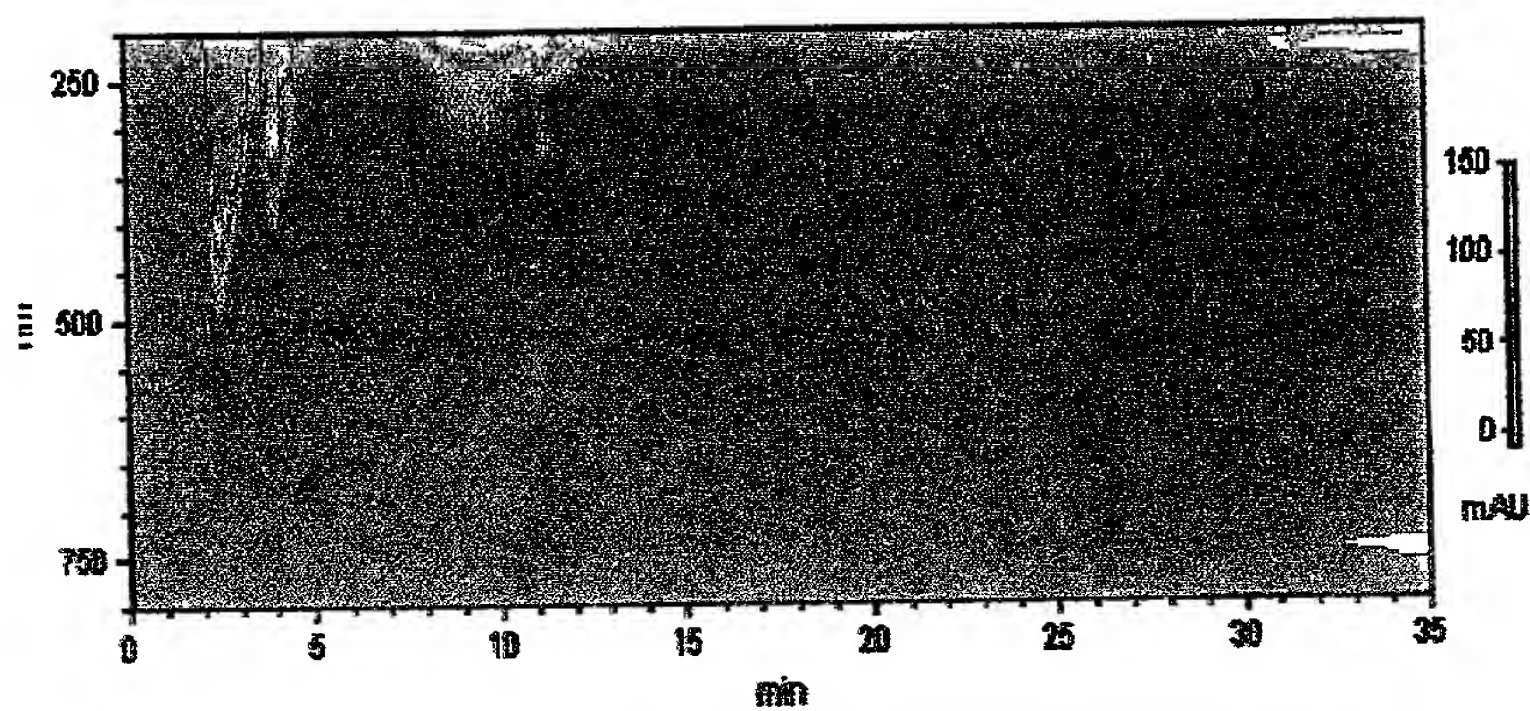
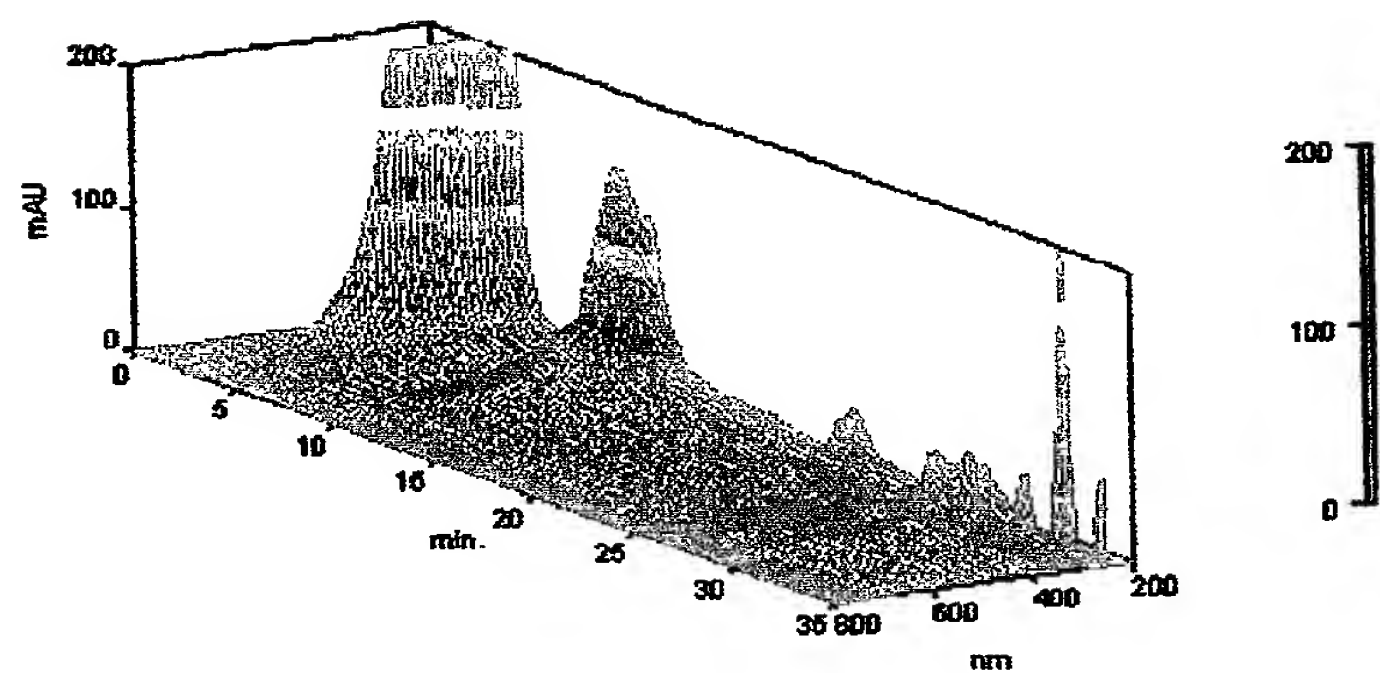


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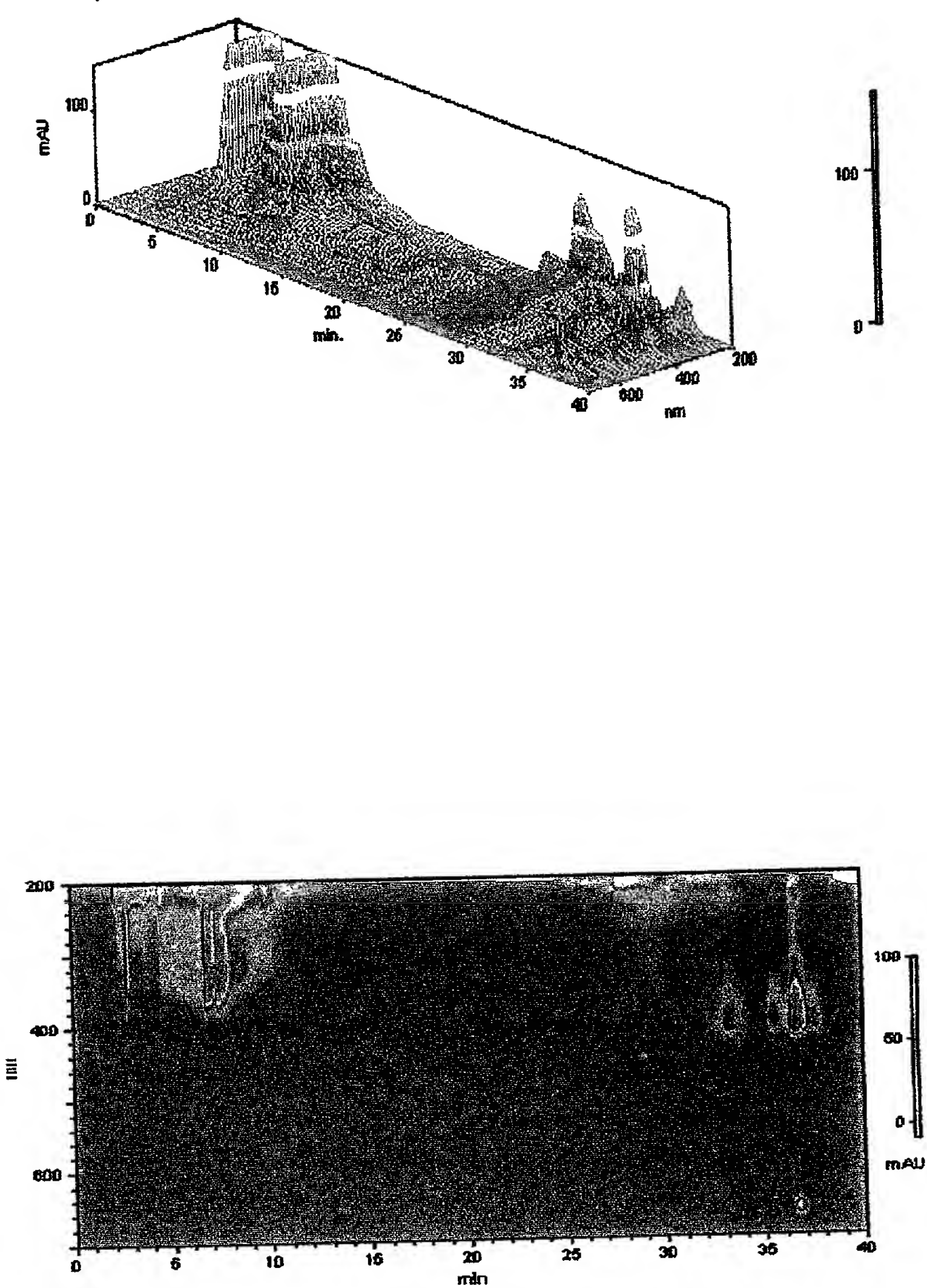


Figure 54

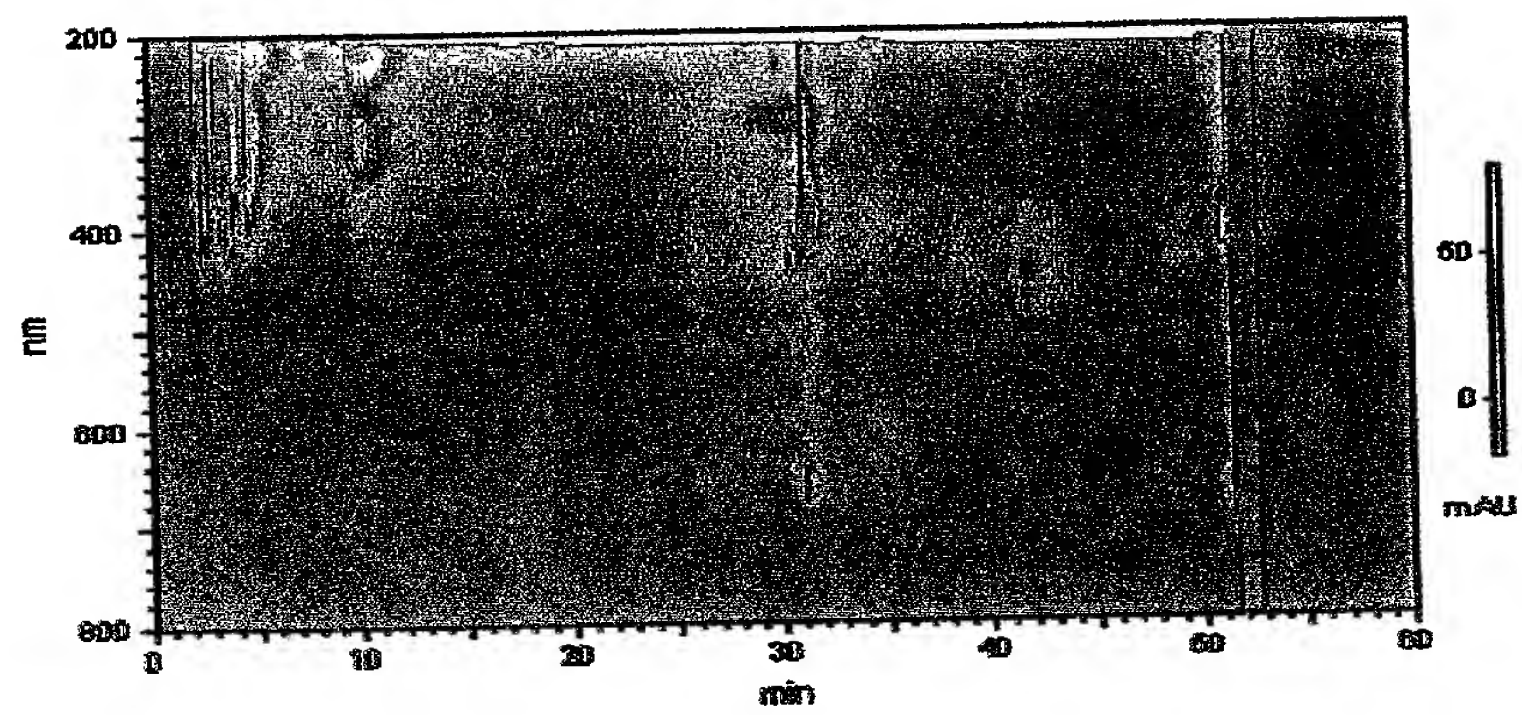
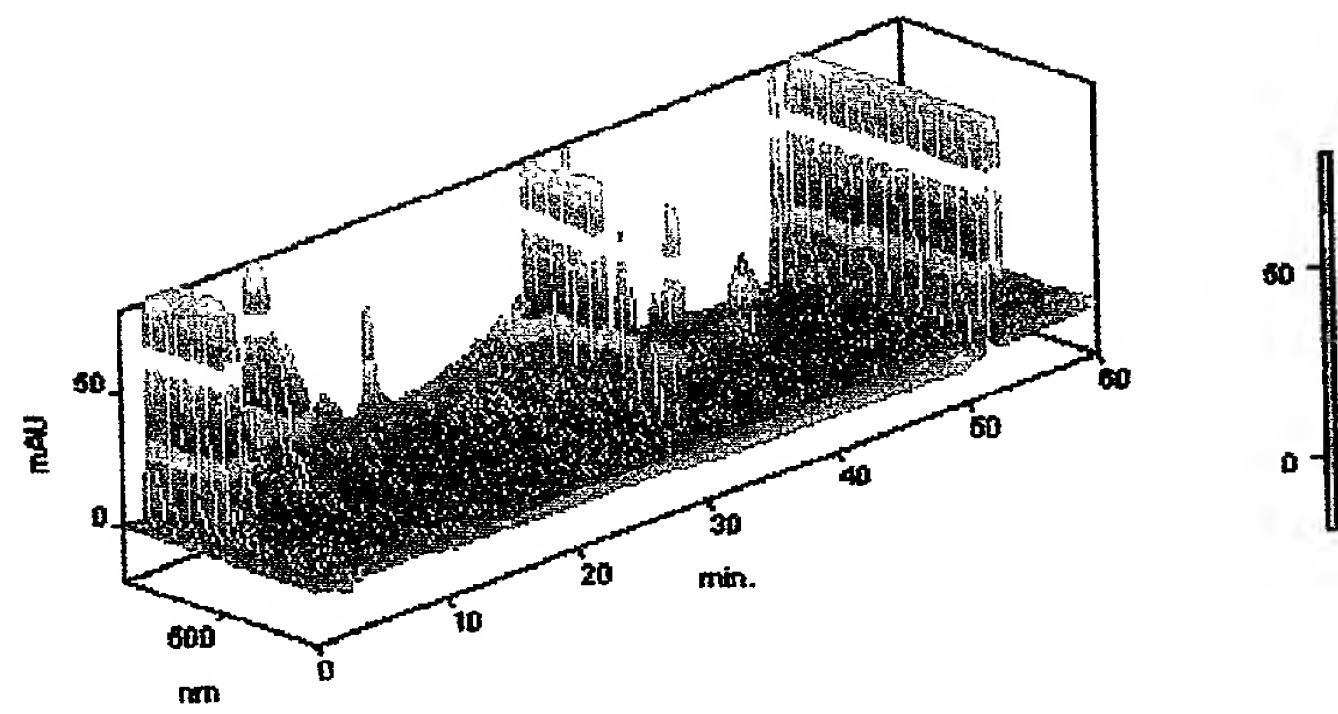


Figure 55

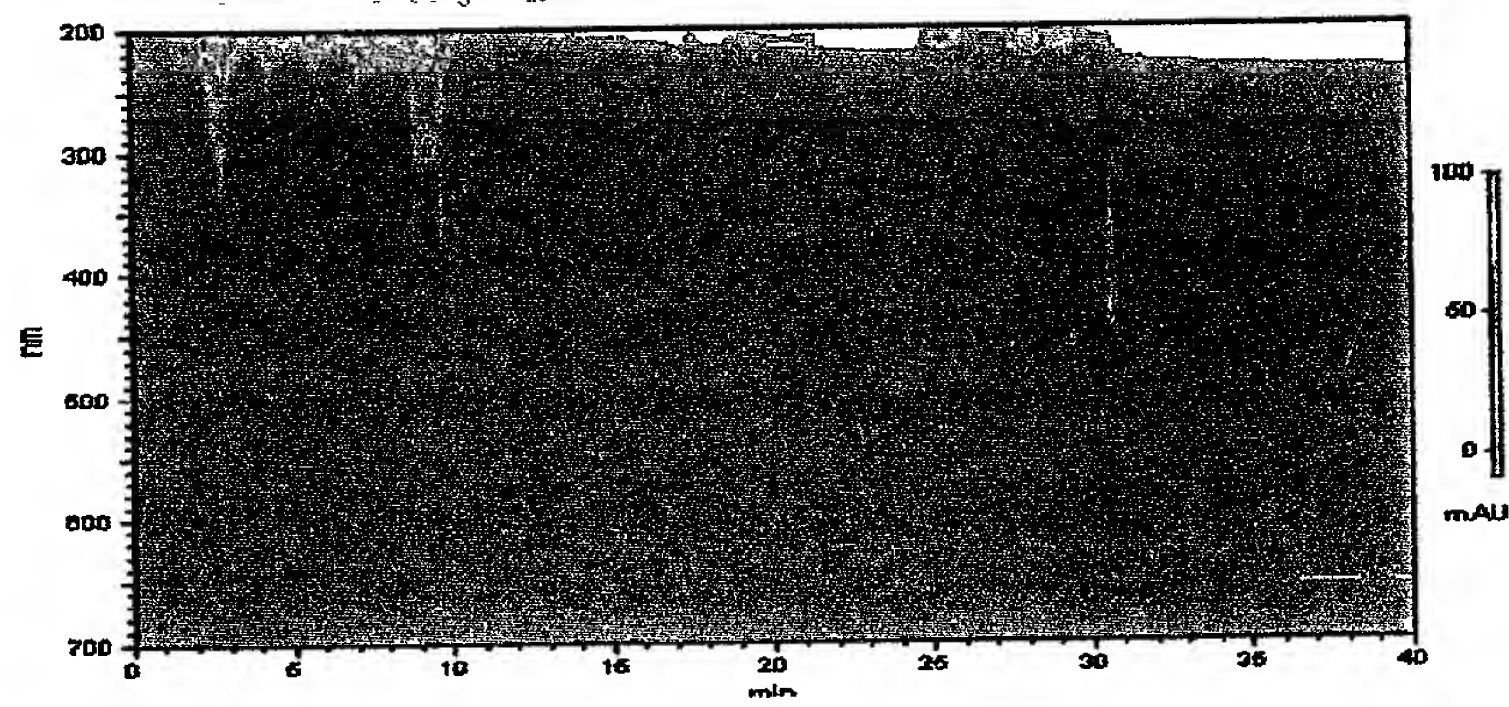
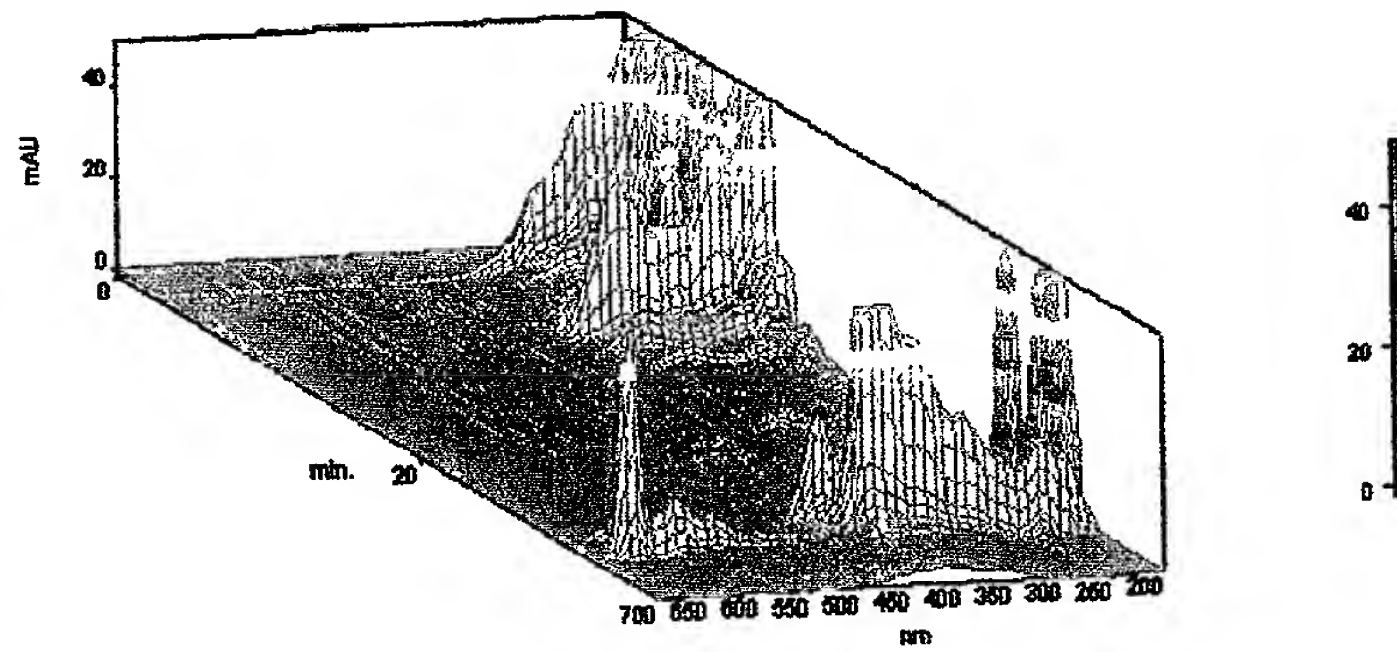


Figure 56

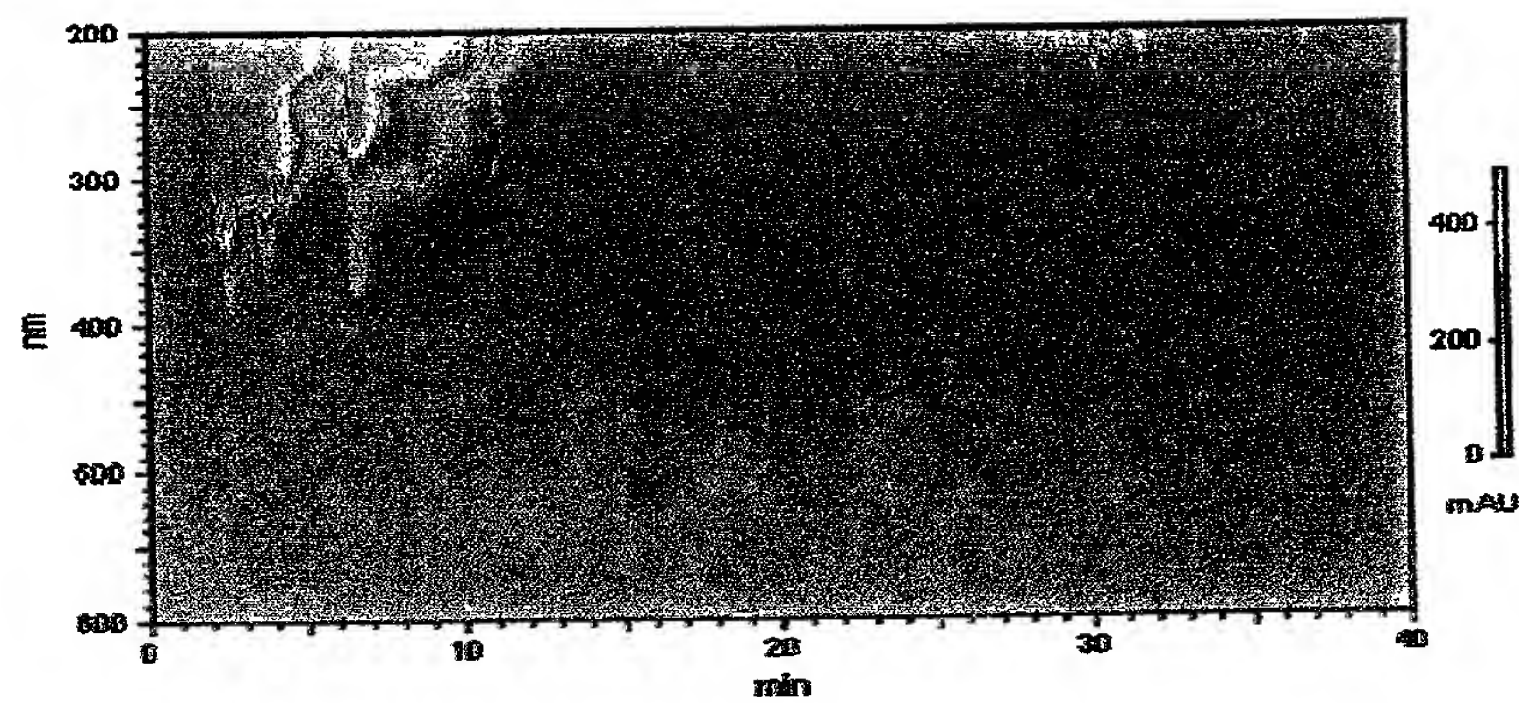
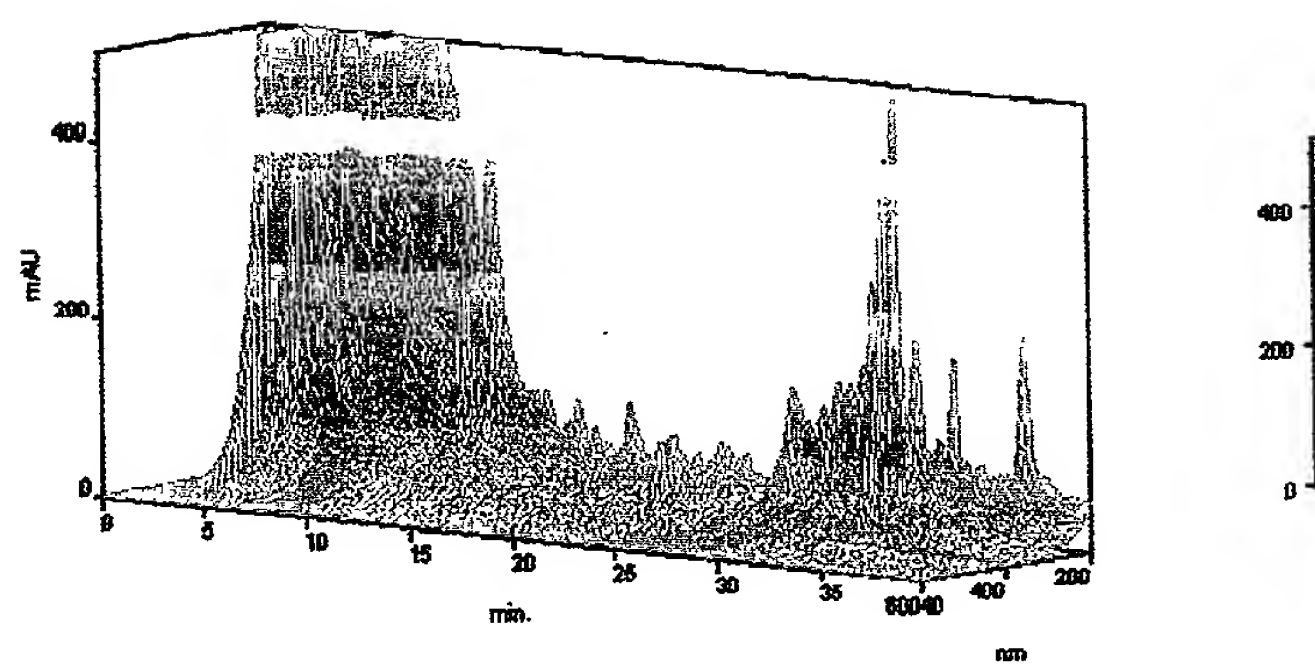




Figure 57

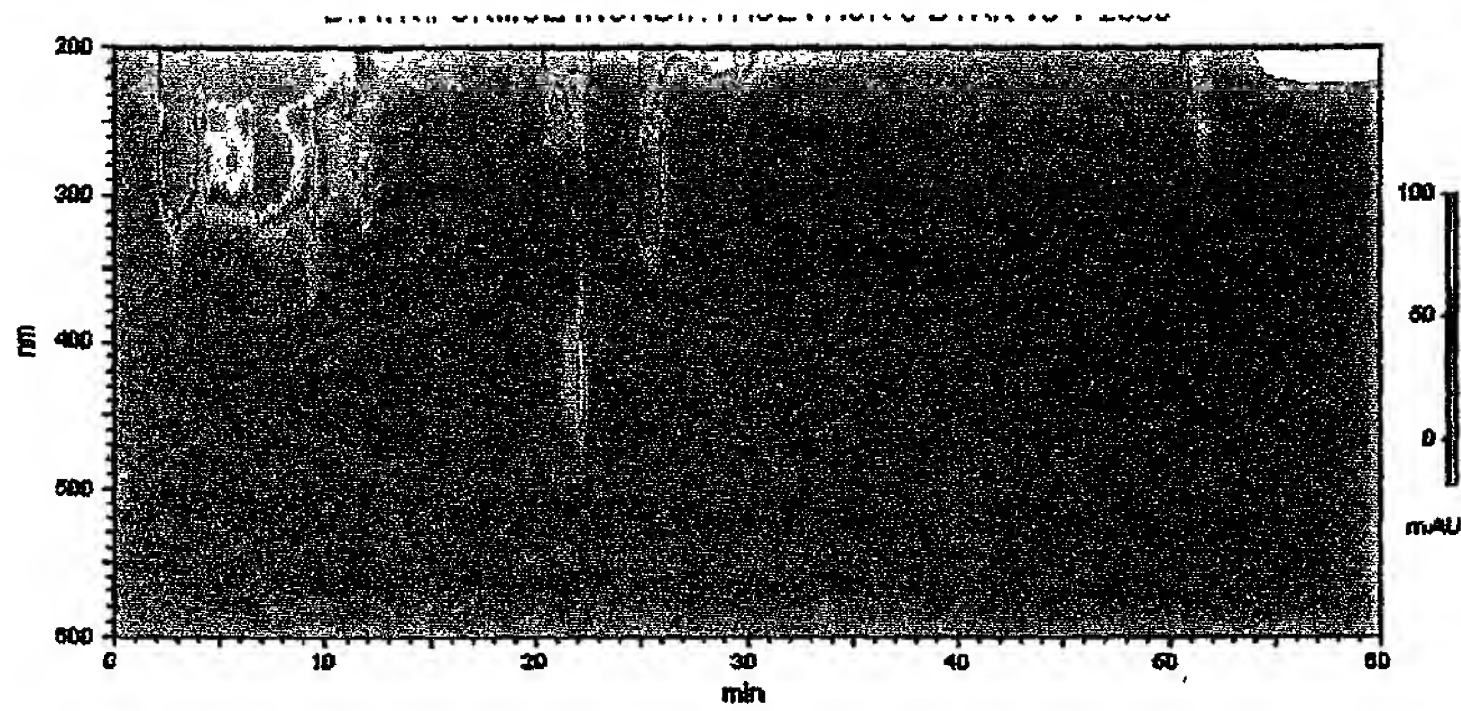
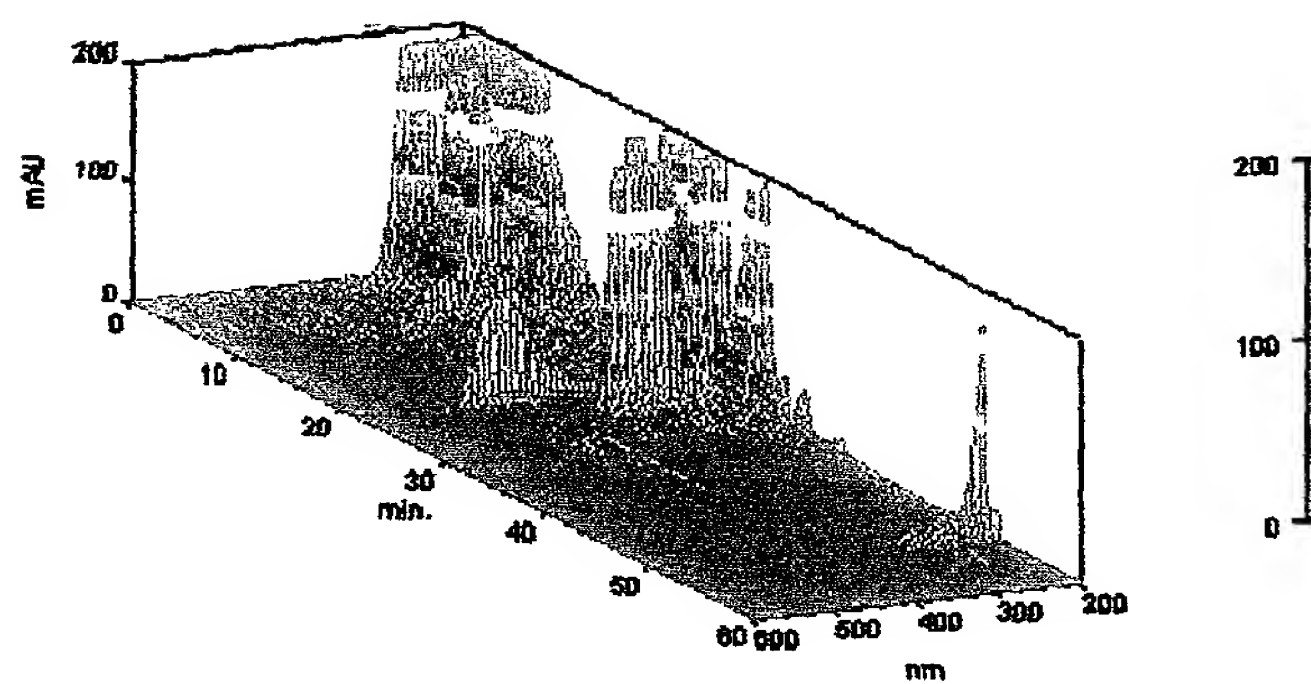


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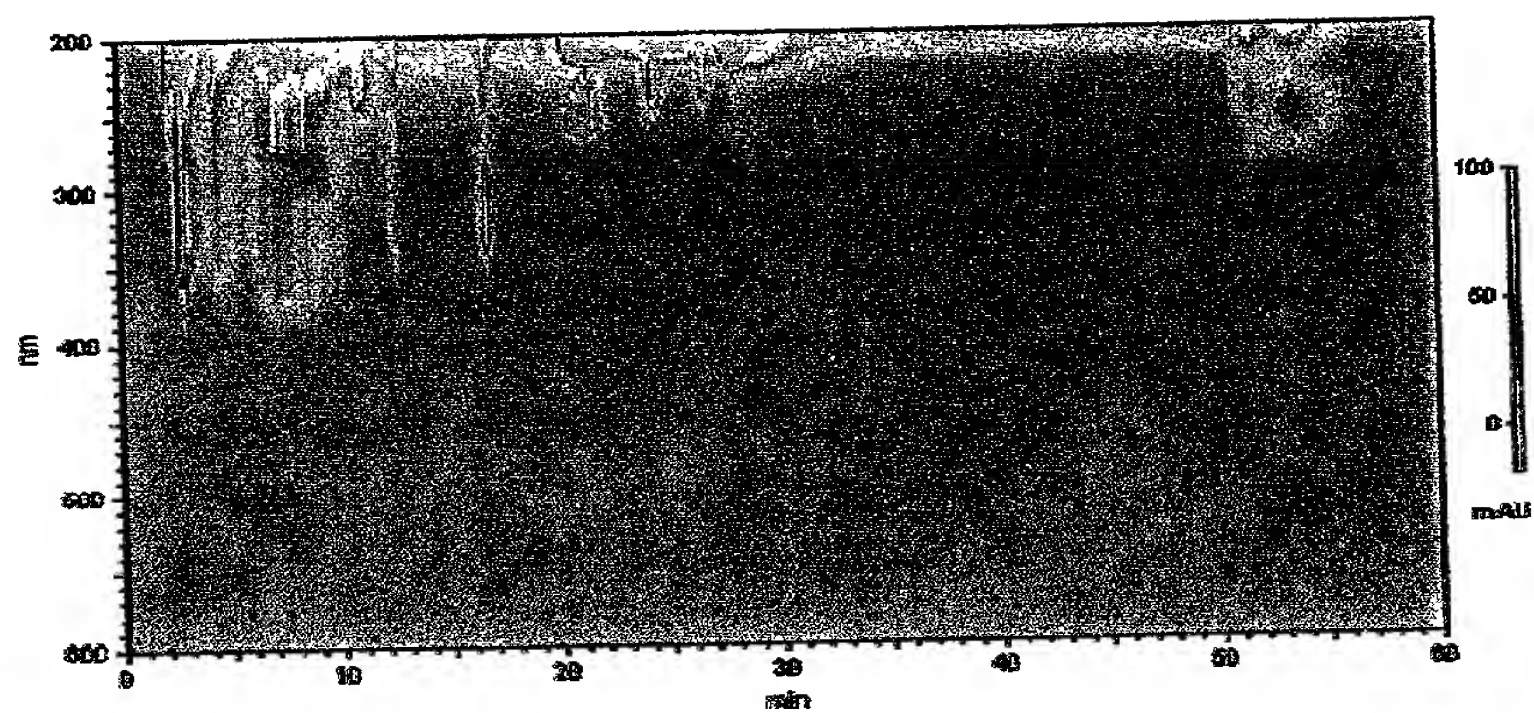
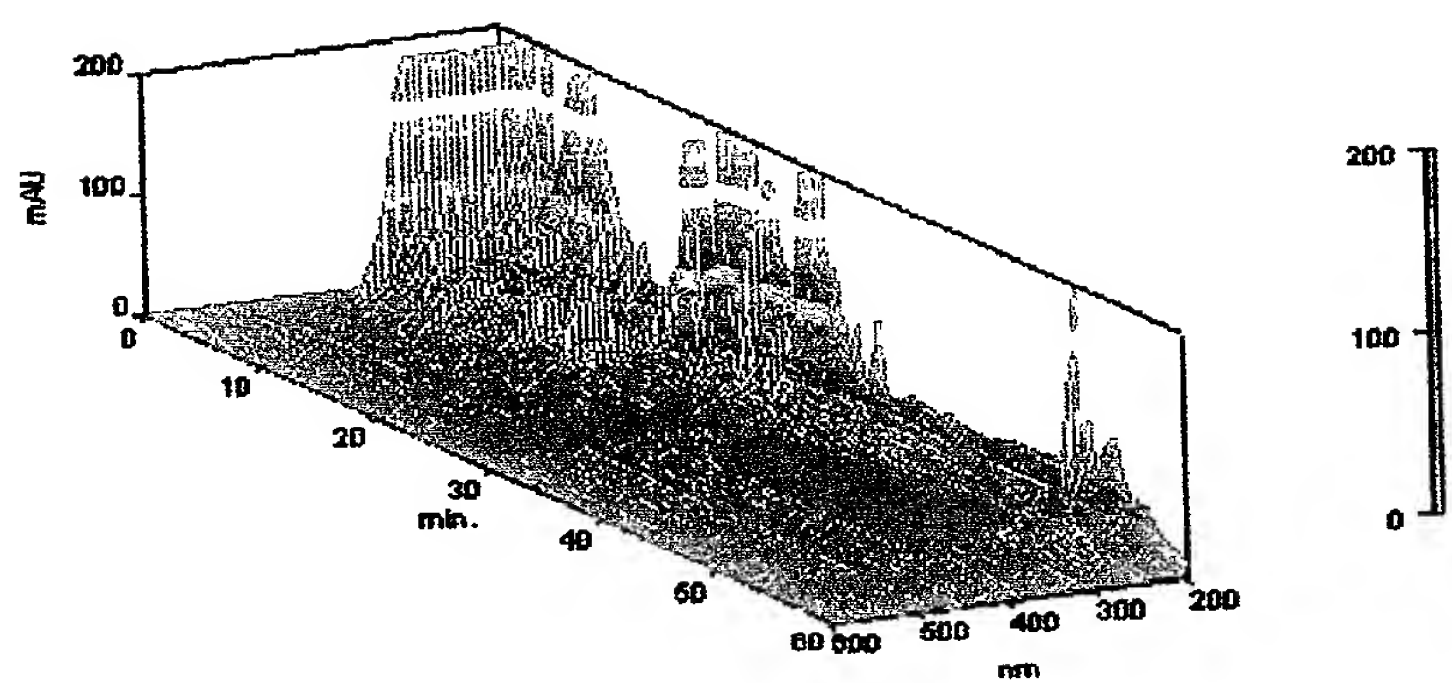
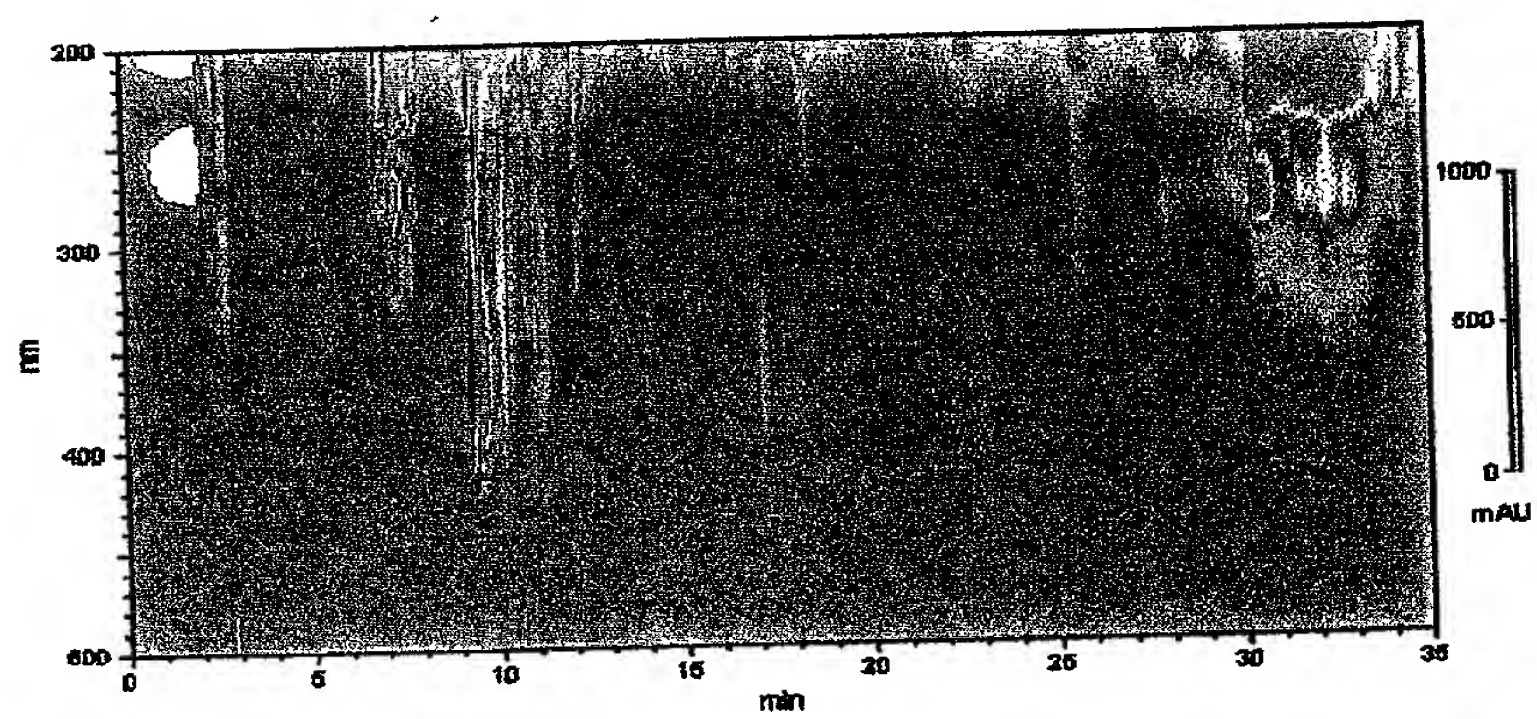
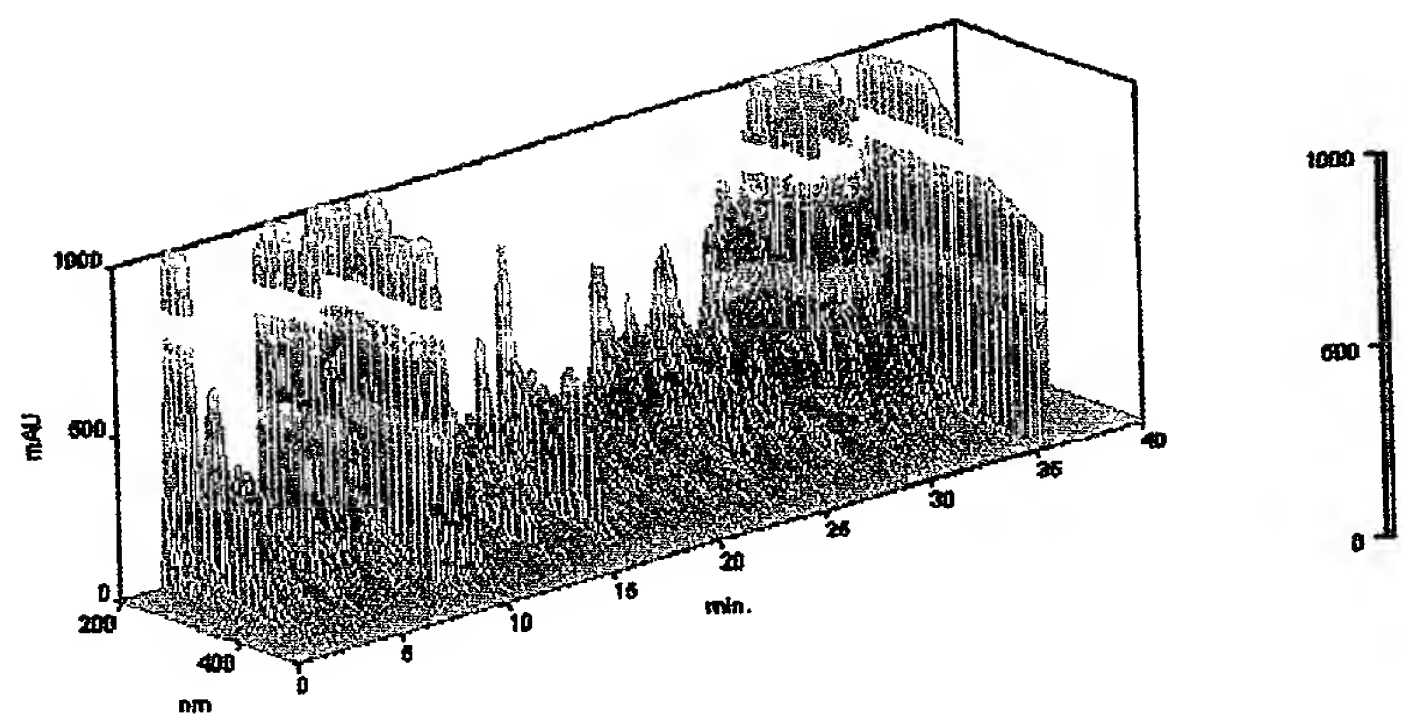


Figure 59



1

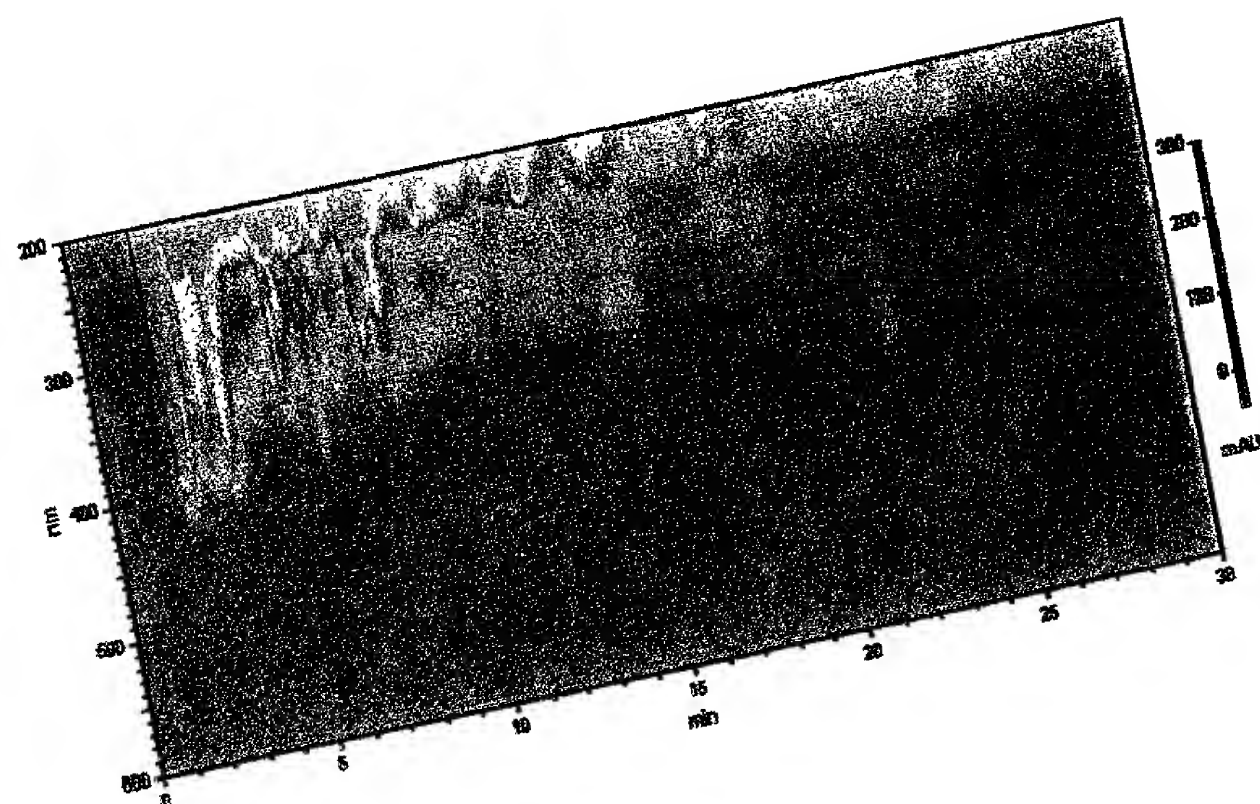
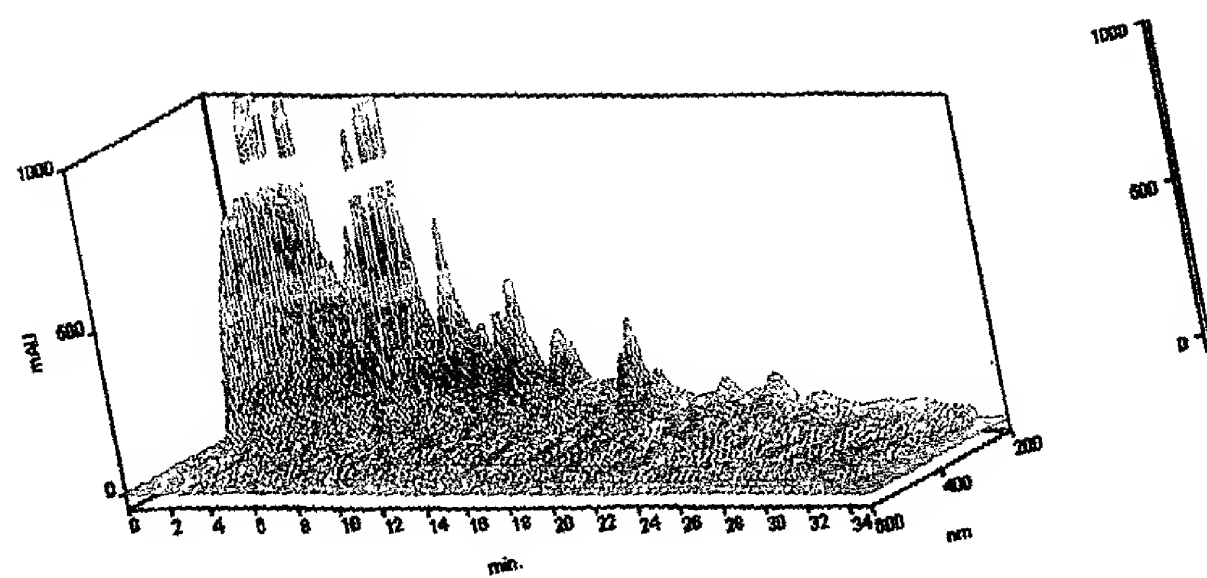
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Figure 61

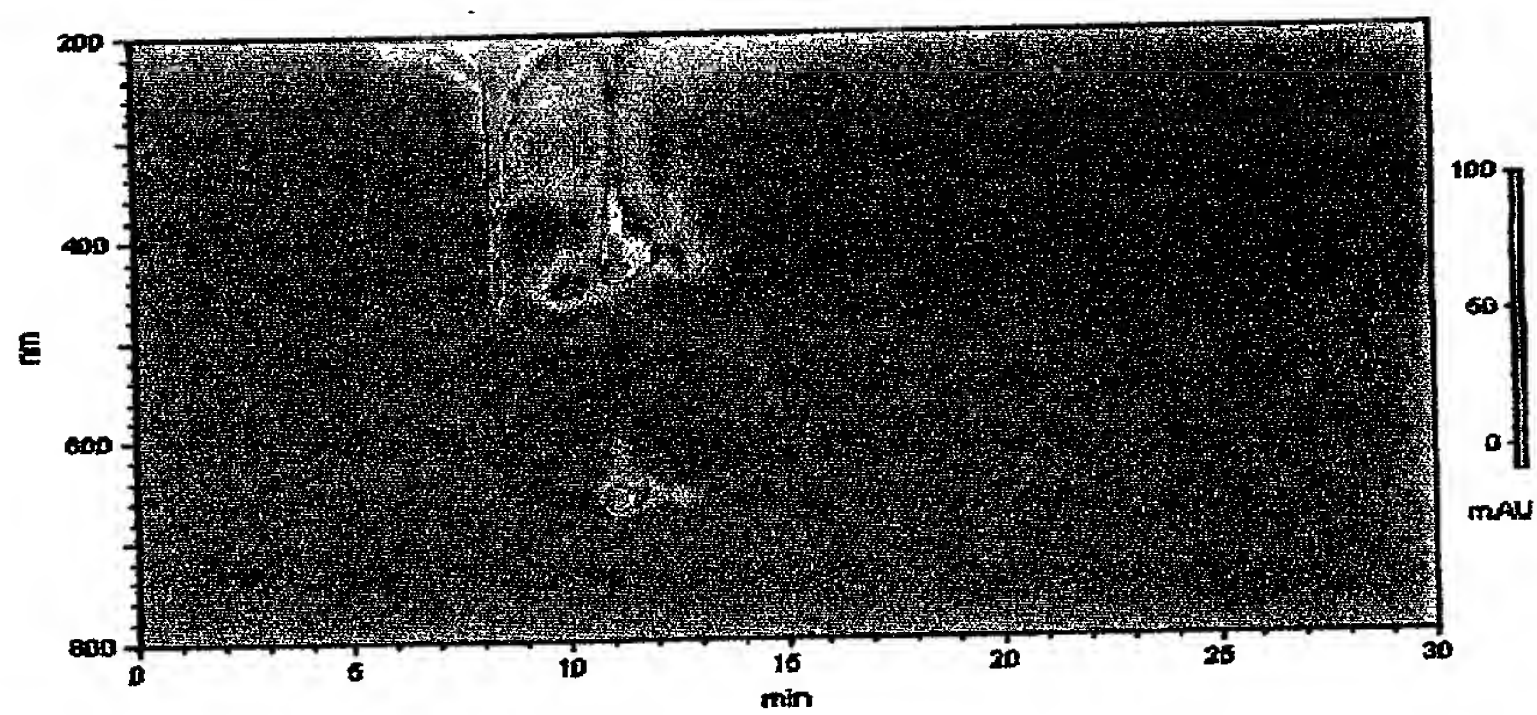
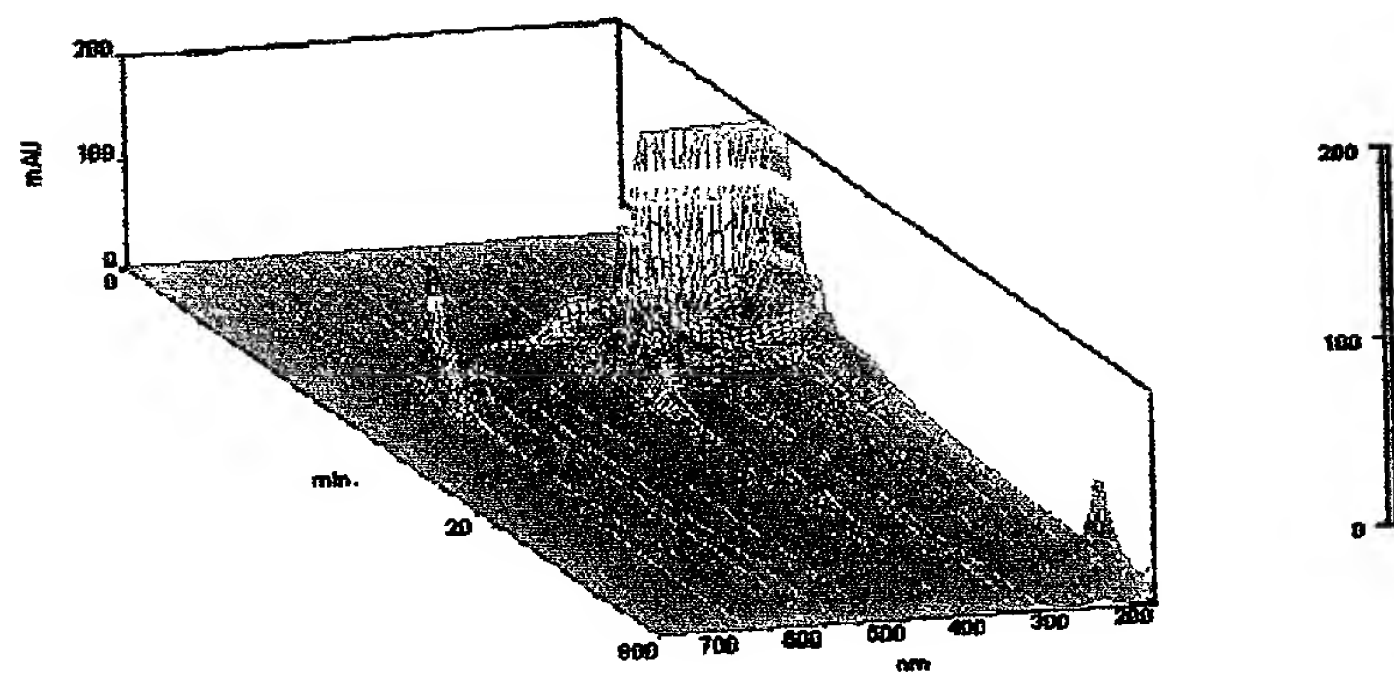




Figure 62

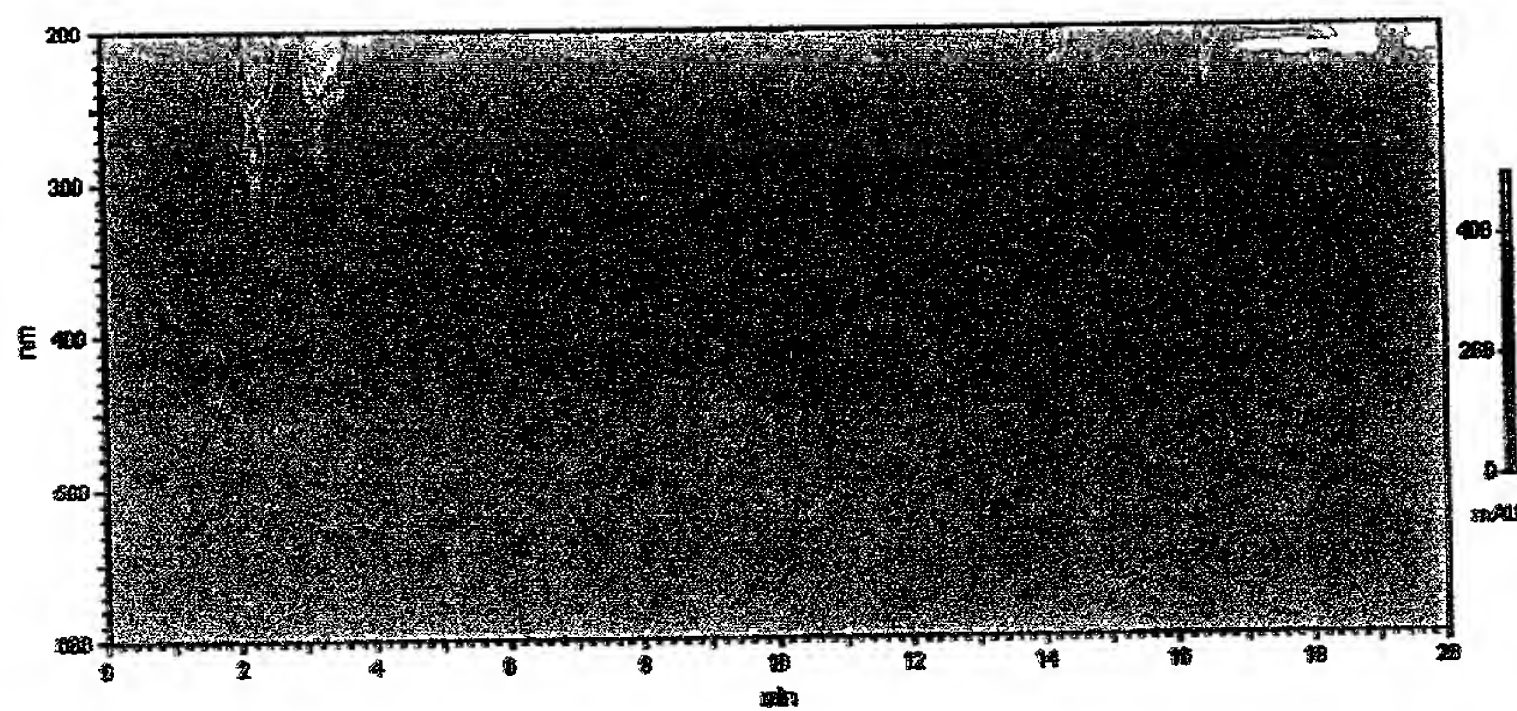
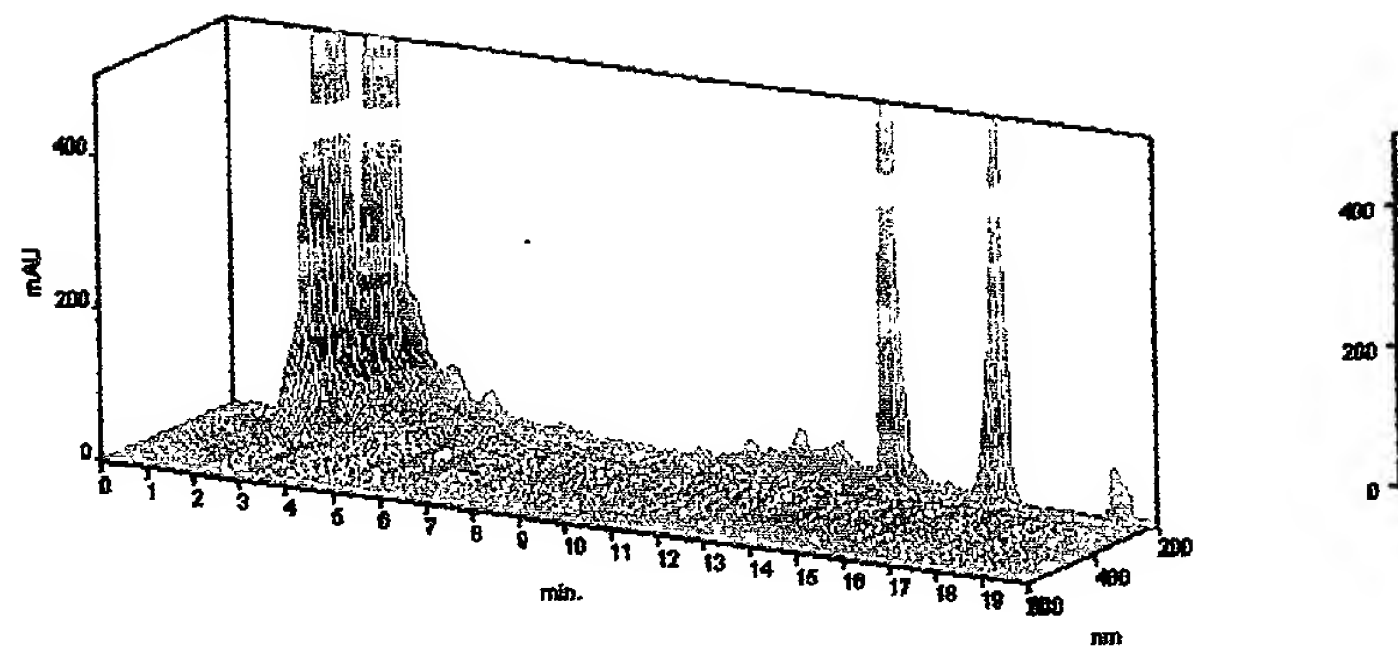


FIGURE 63

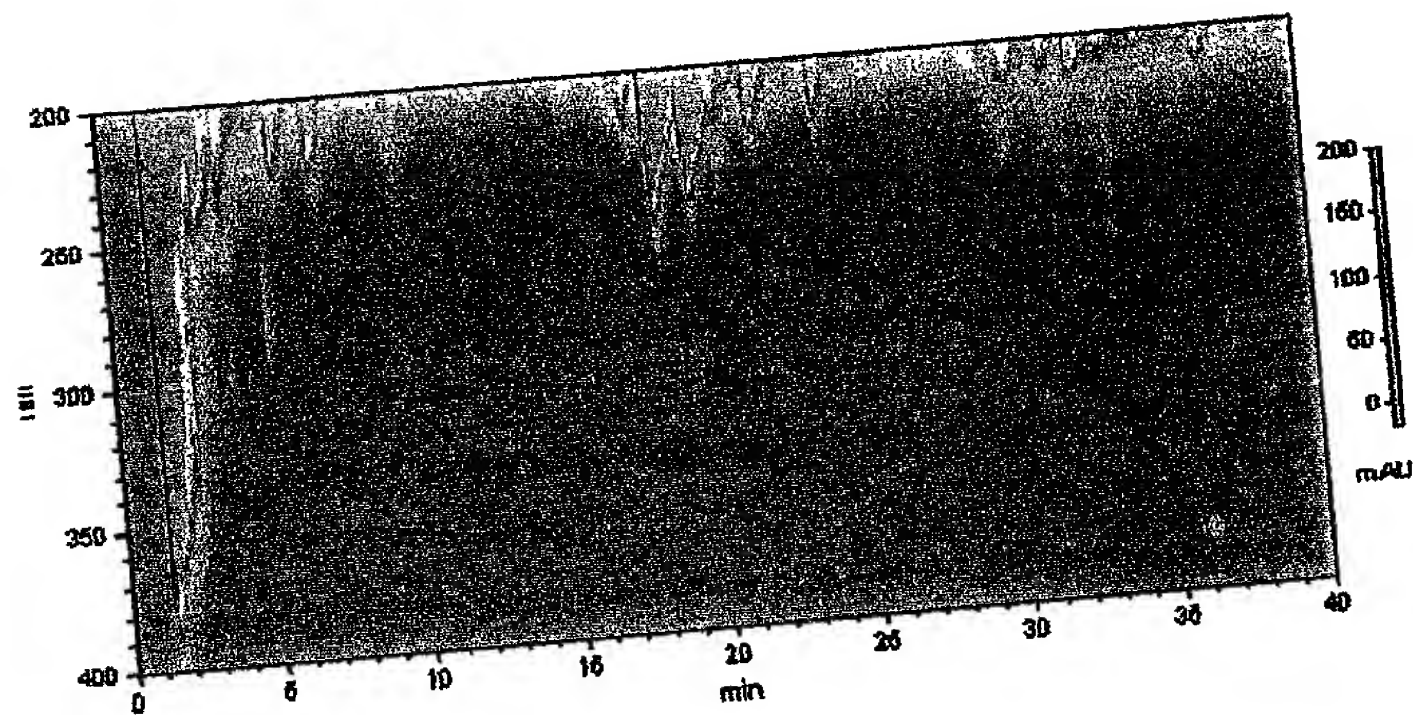
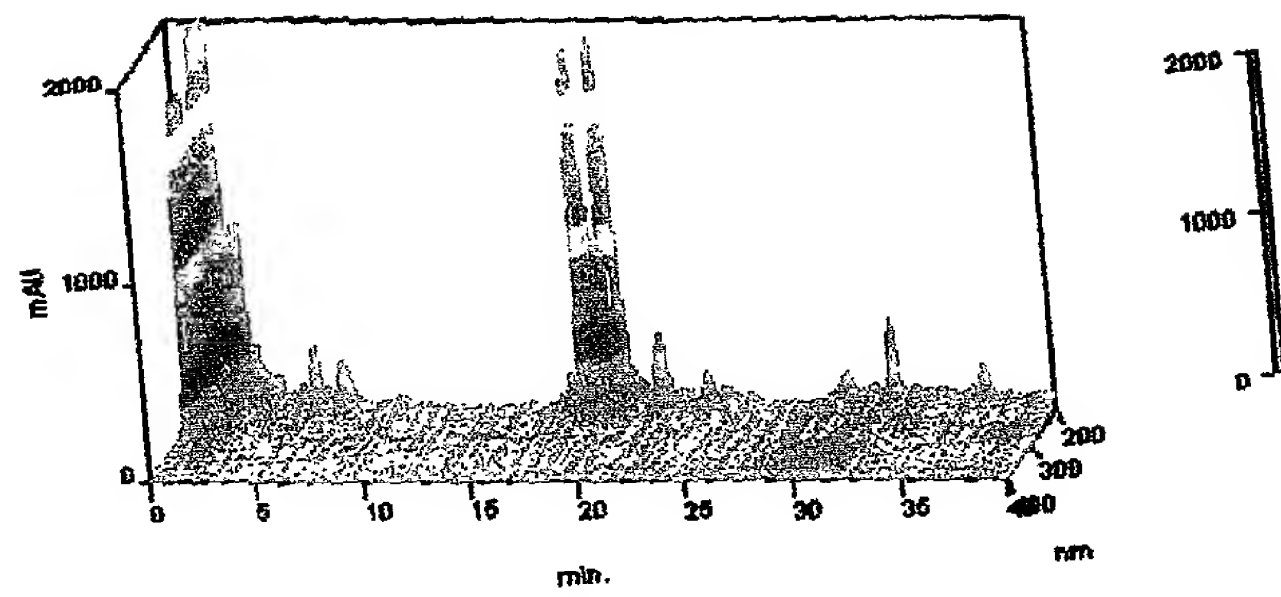


Figure 64

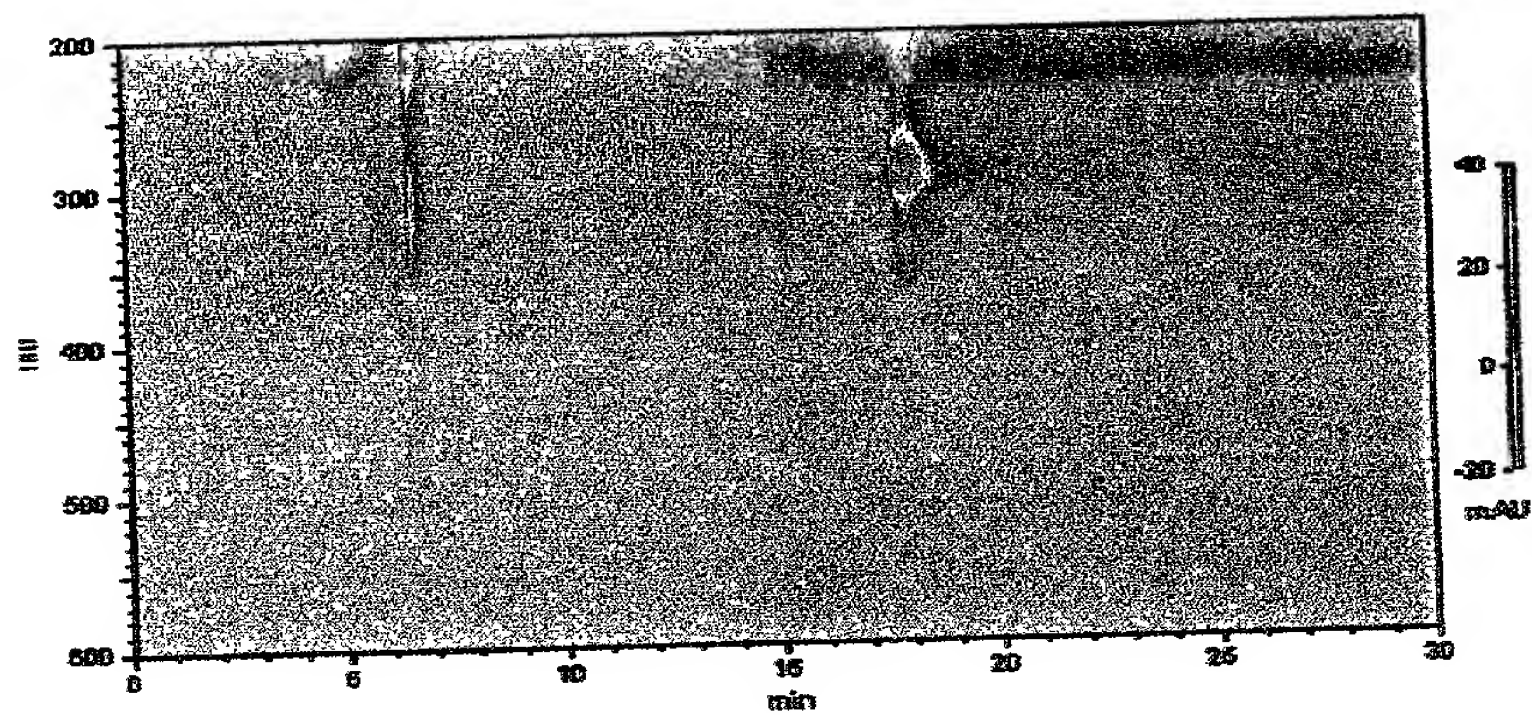
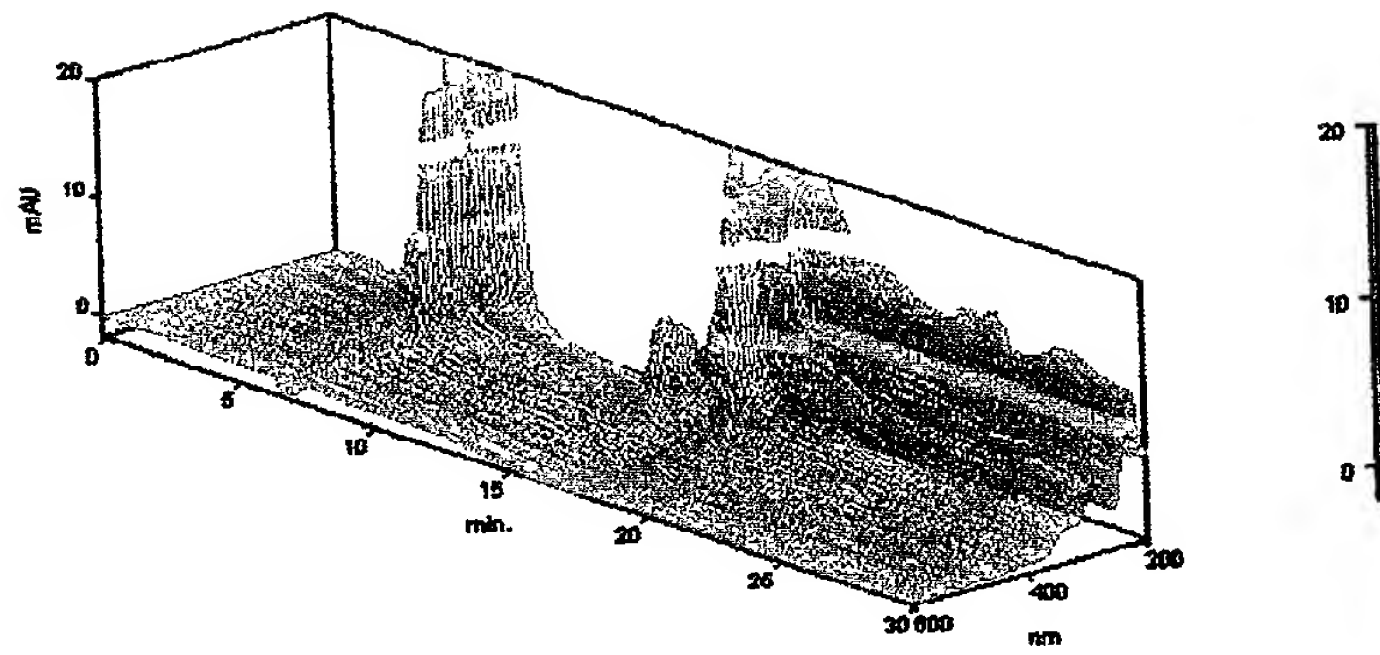


Figure 65

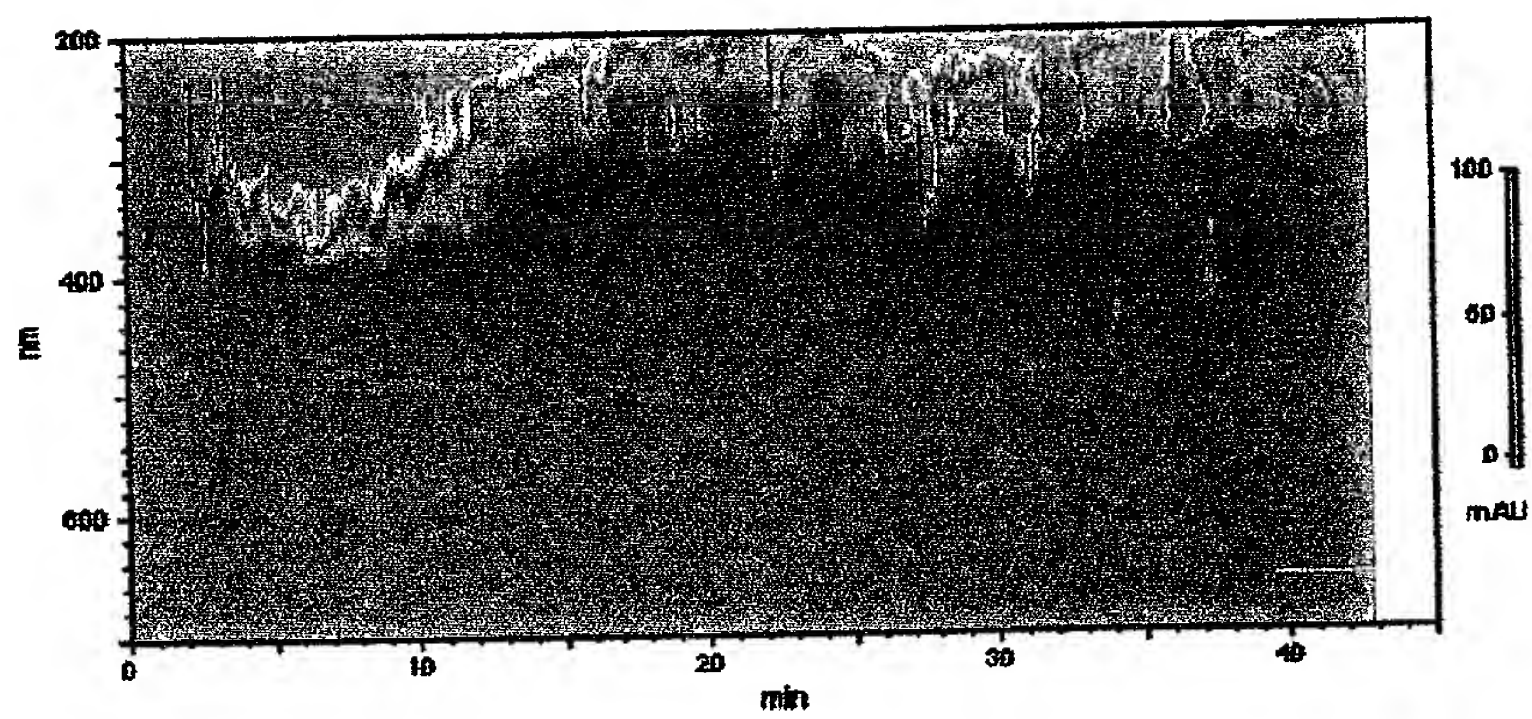
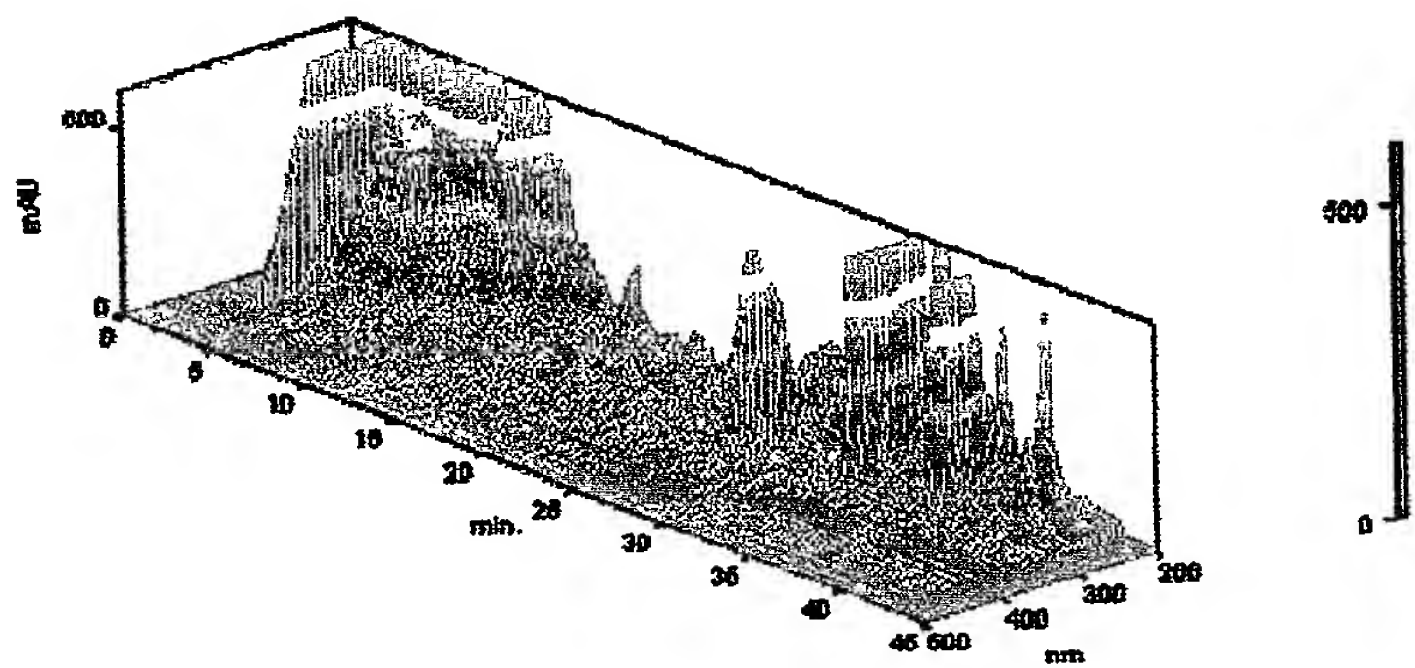


Figure 66

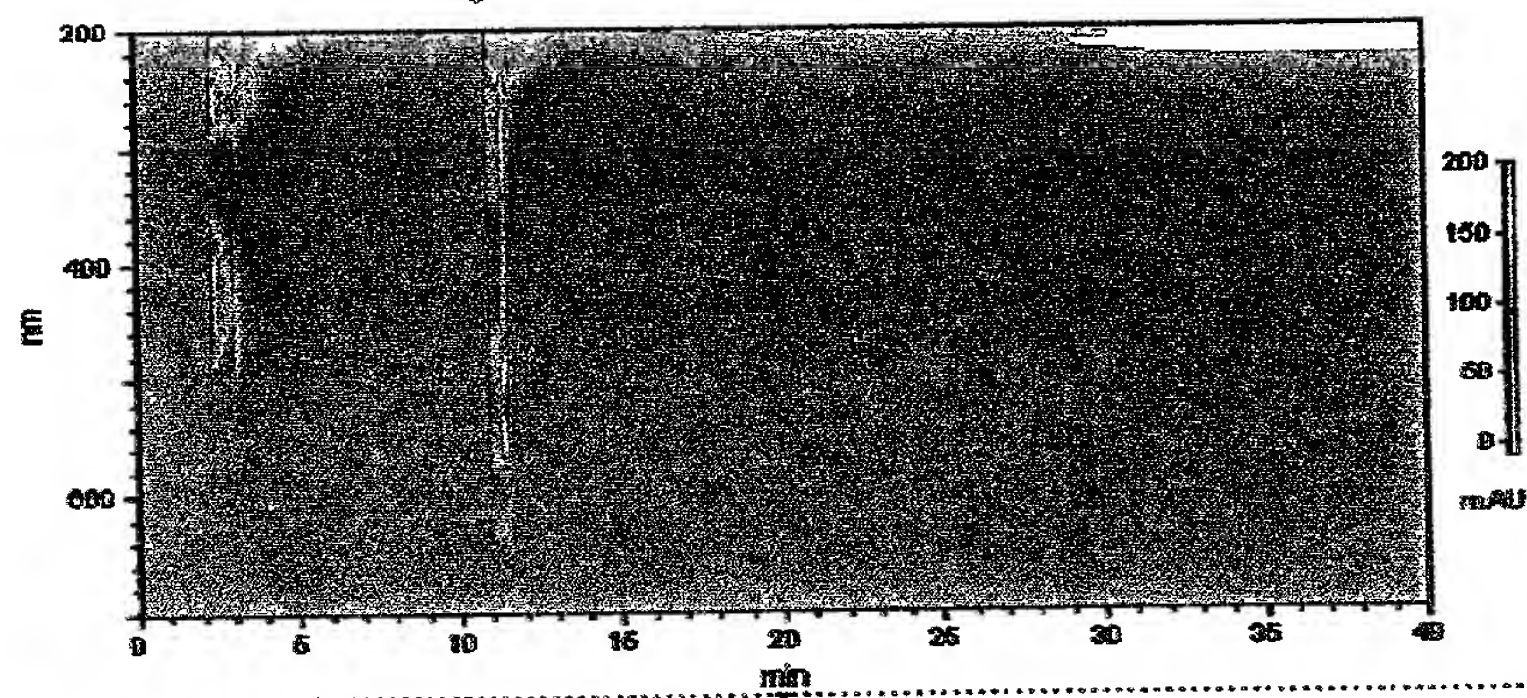
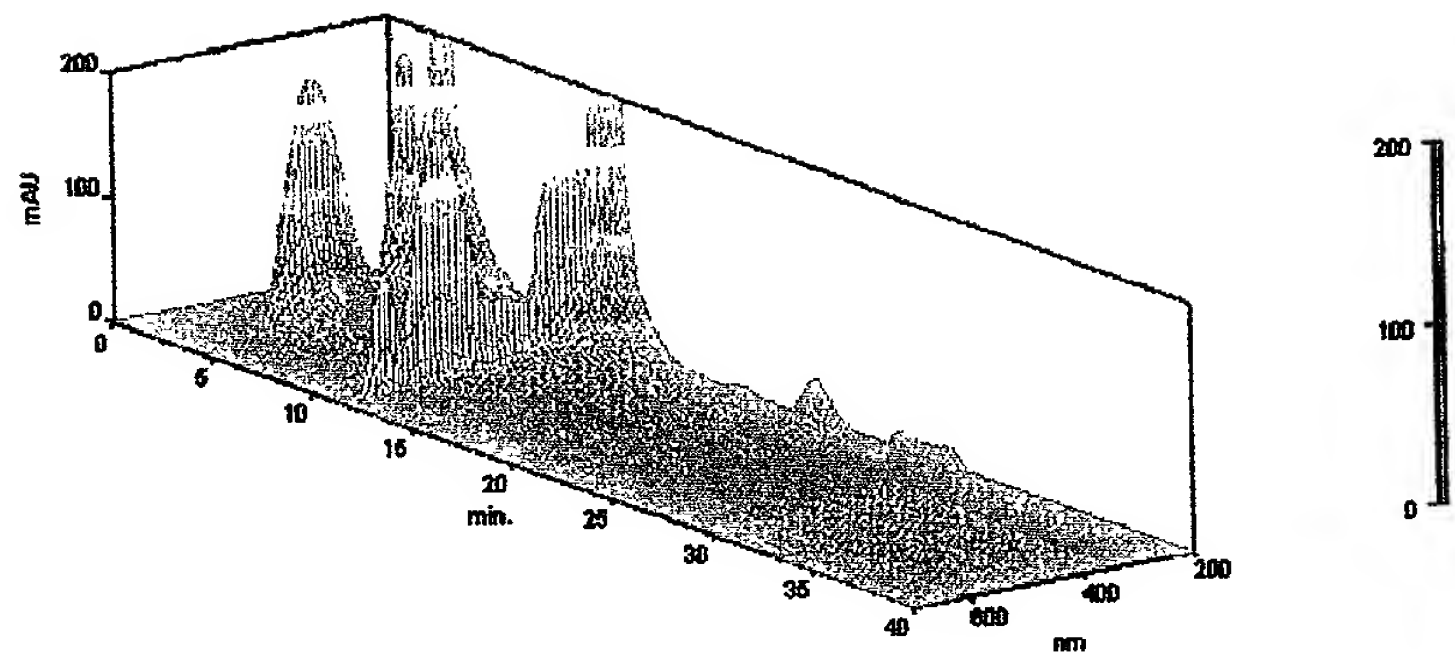




Figure 67

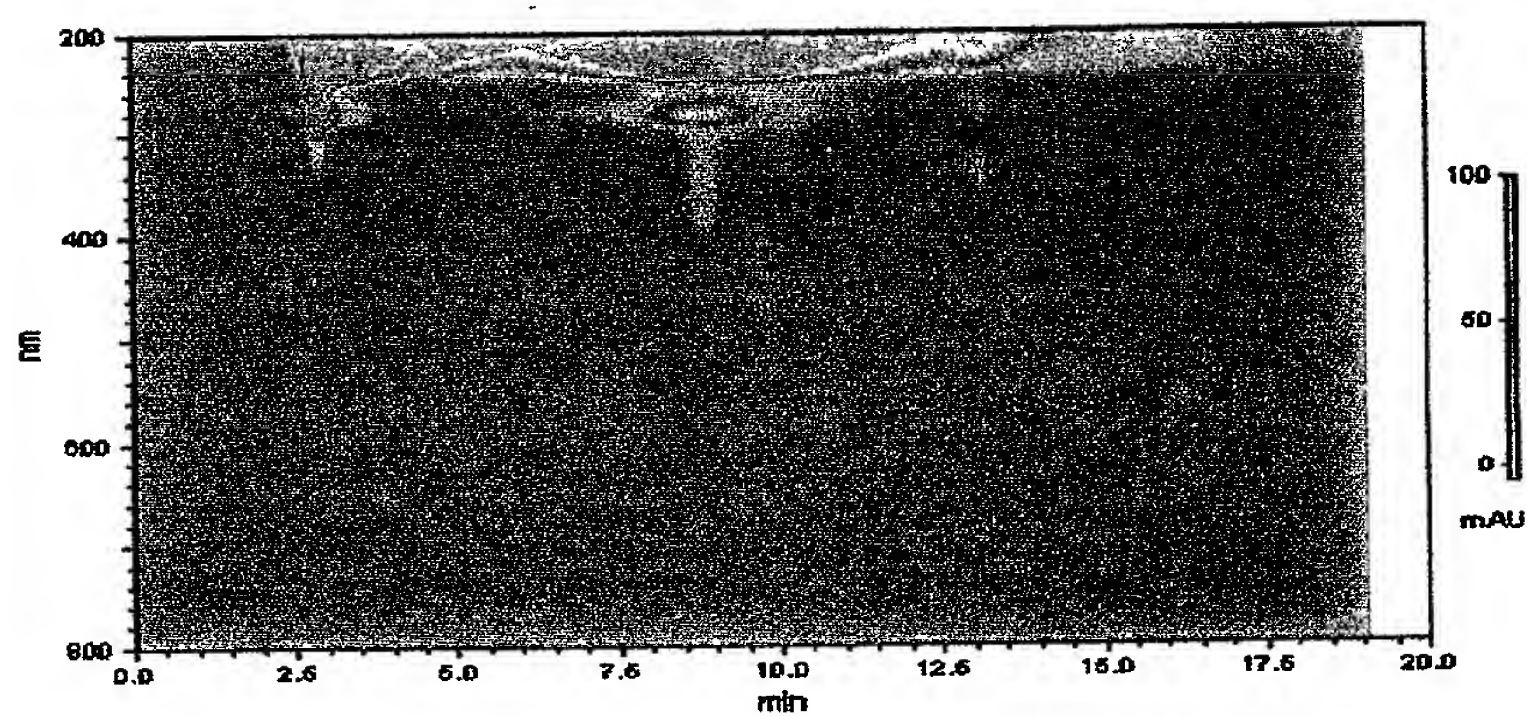
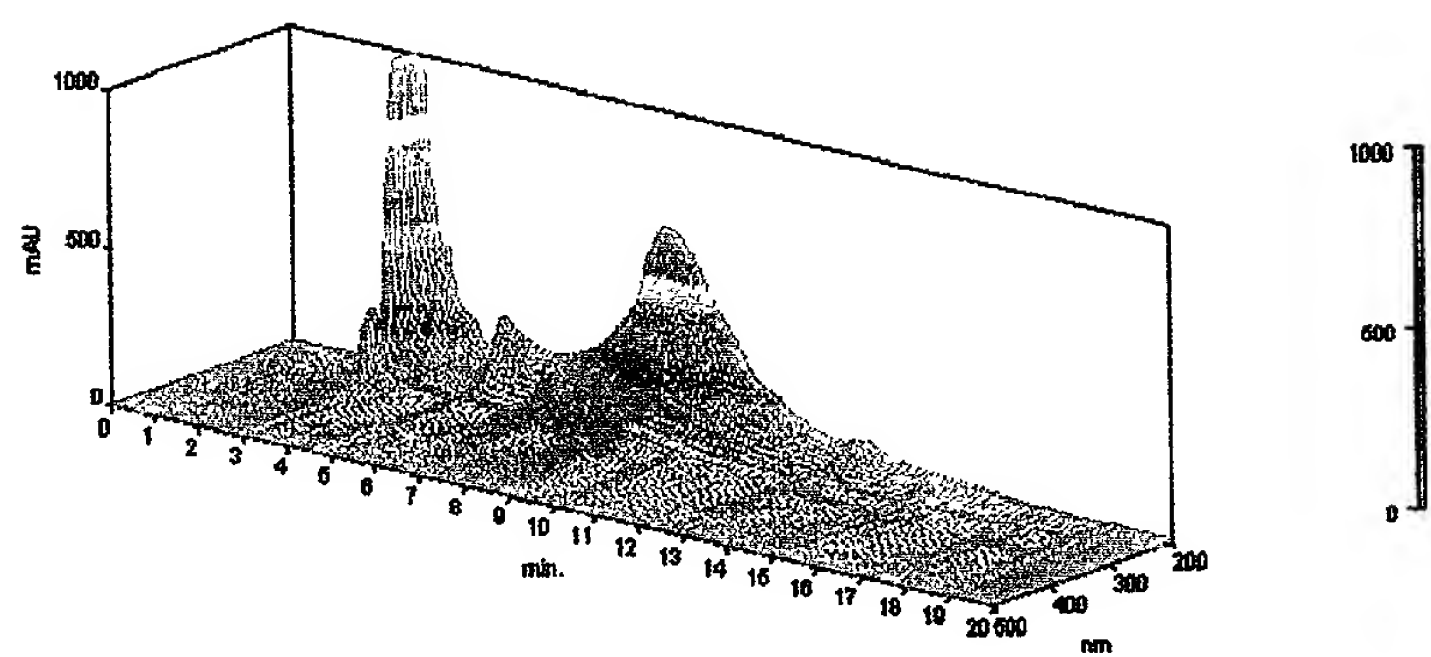


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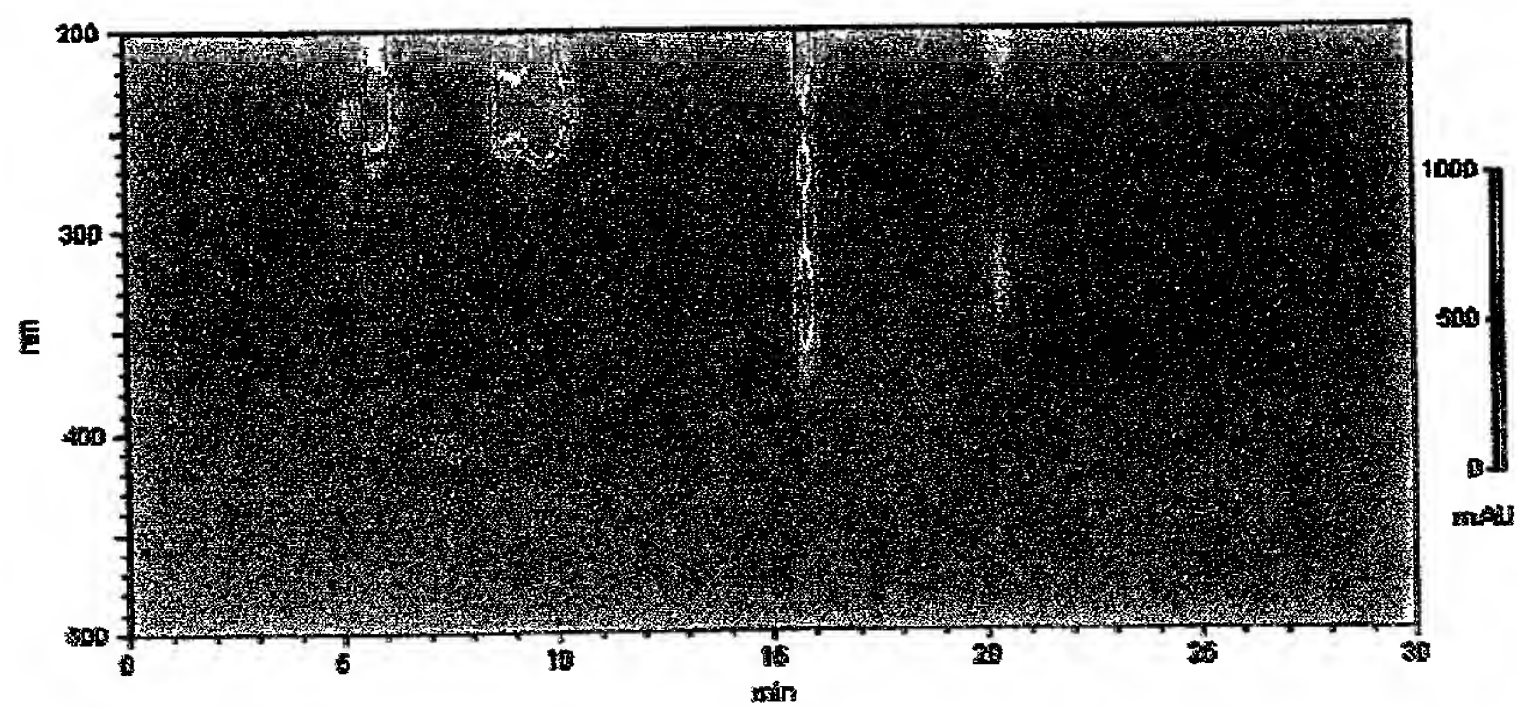
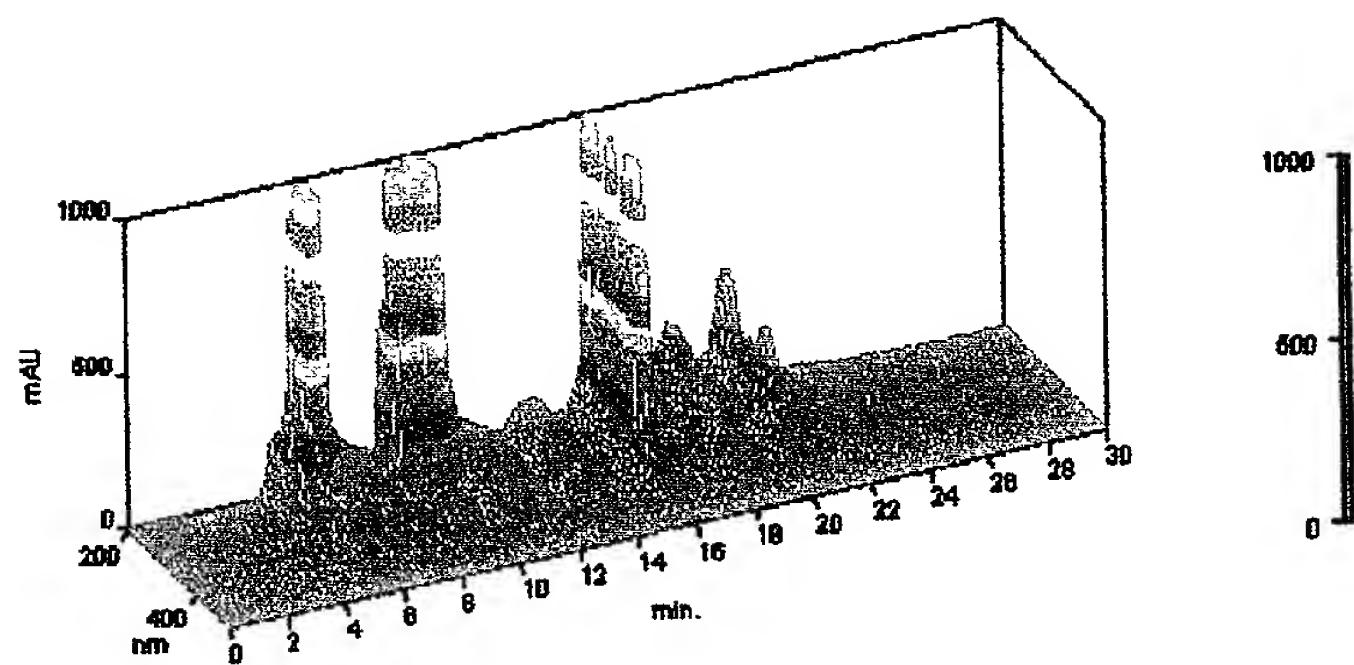


Figure 69

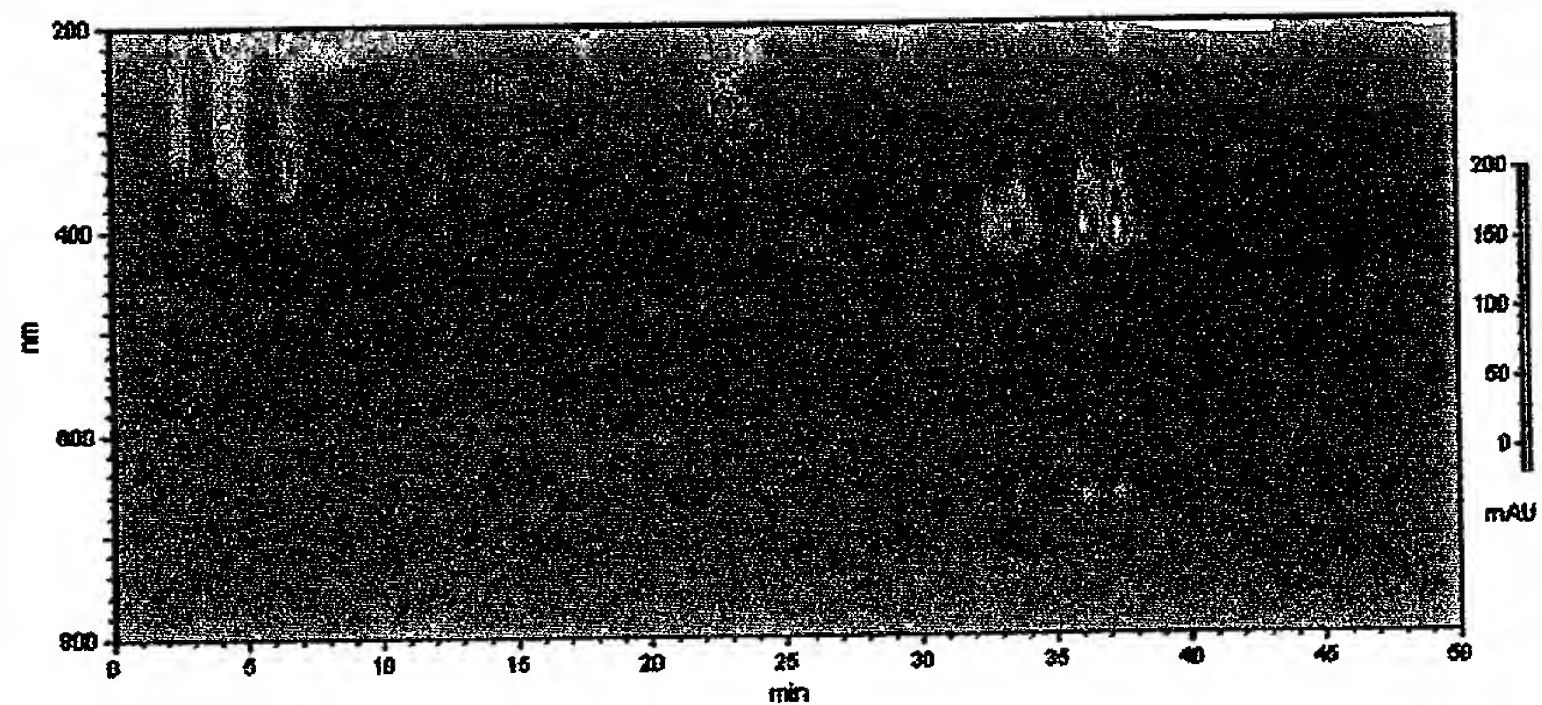
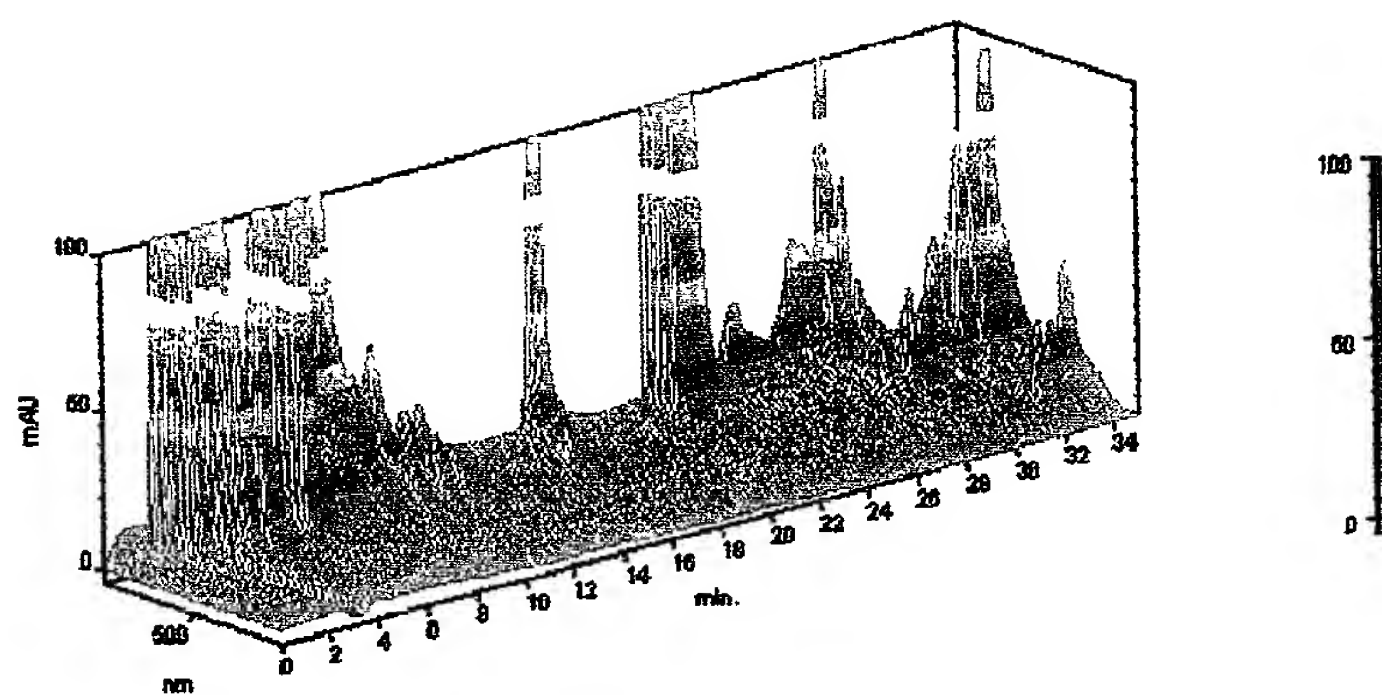


Figure 70

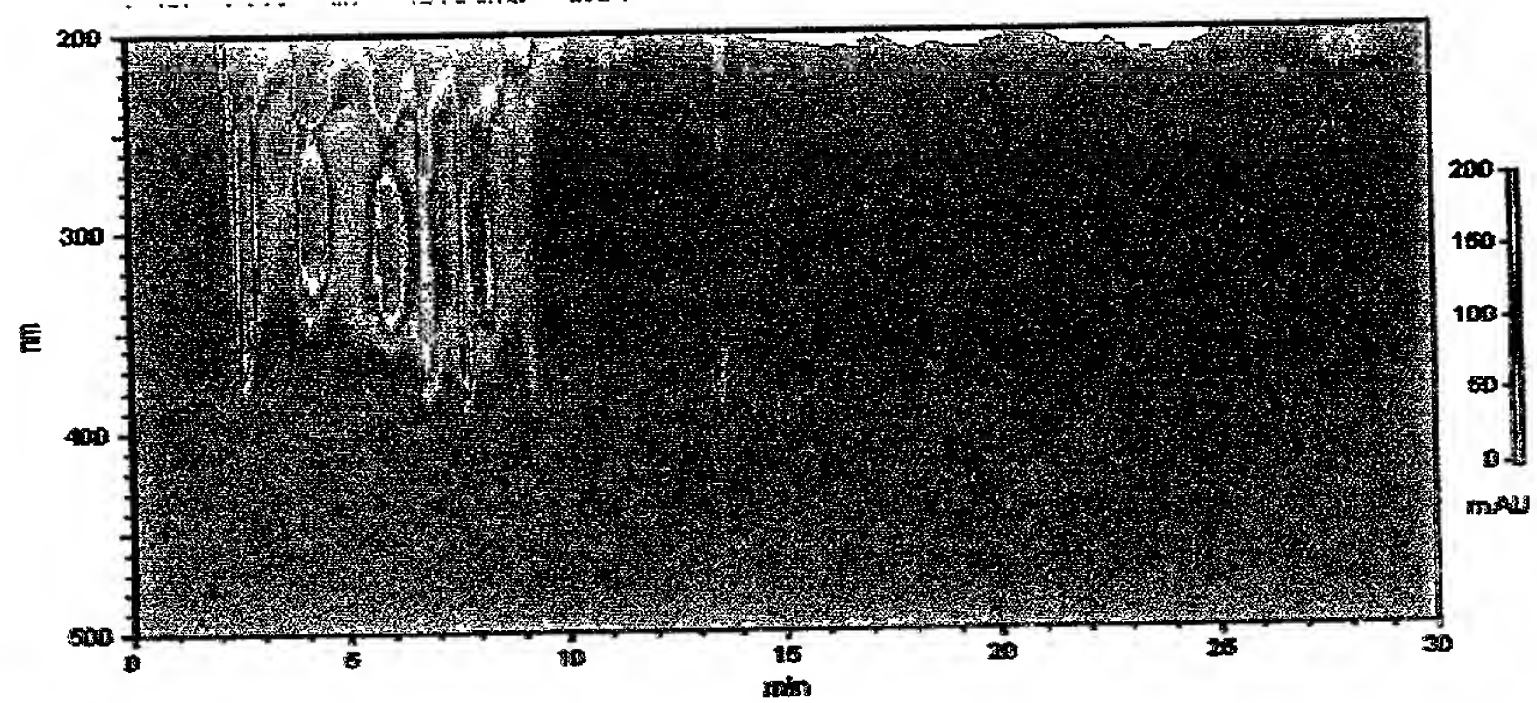
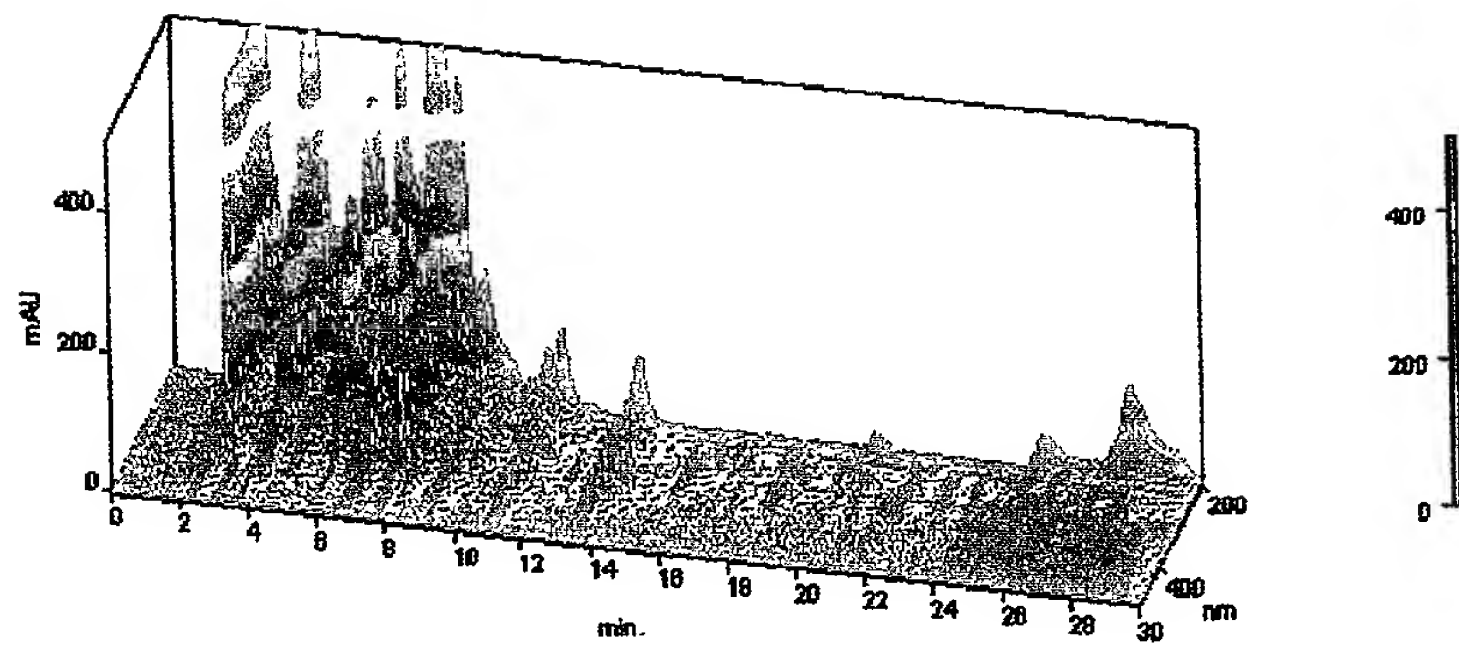


Figure 71

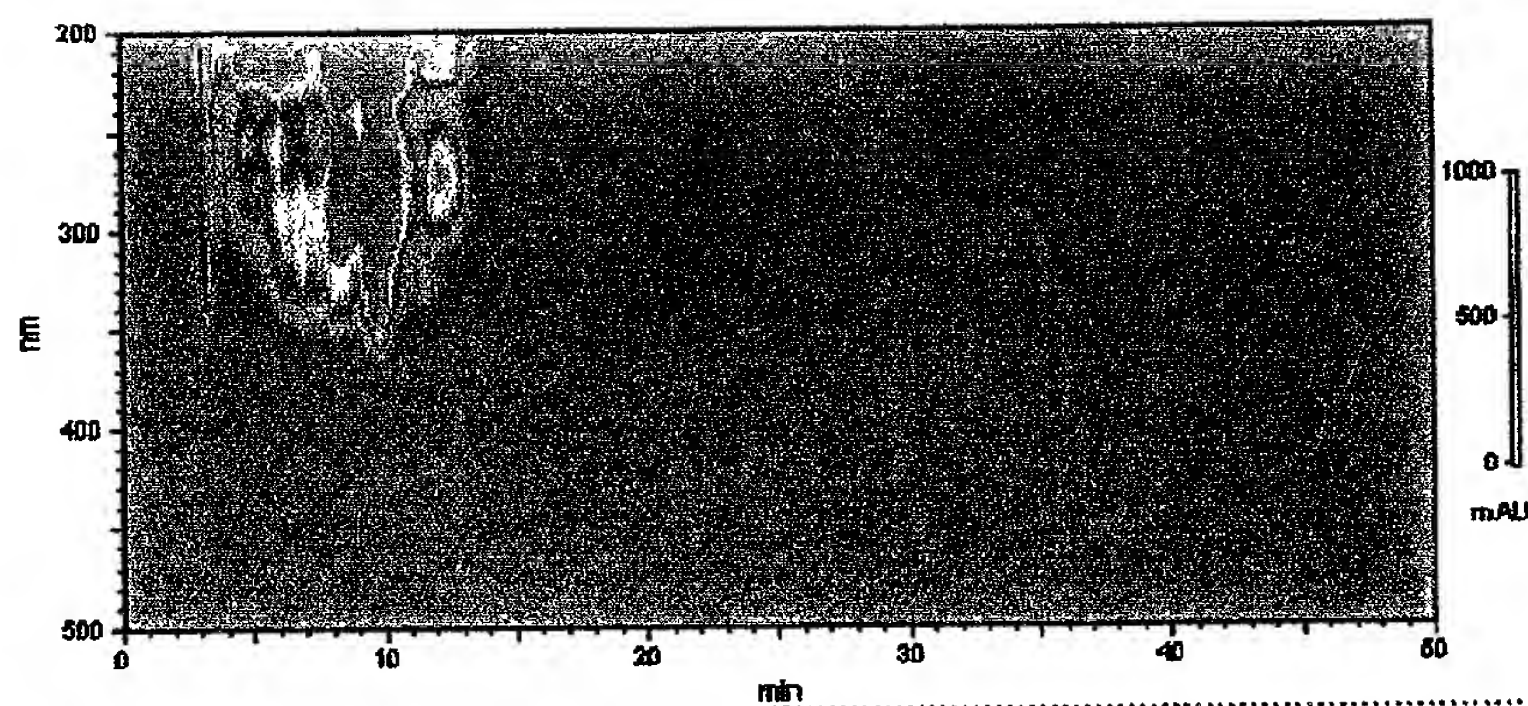
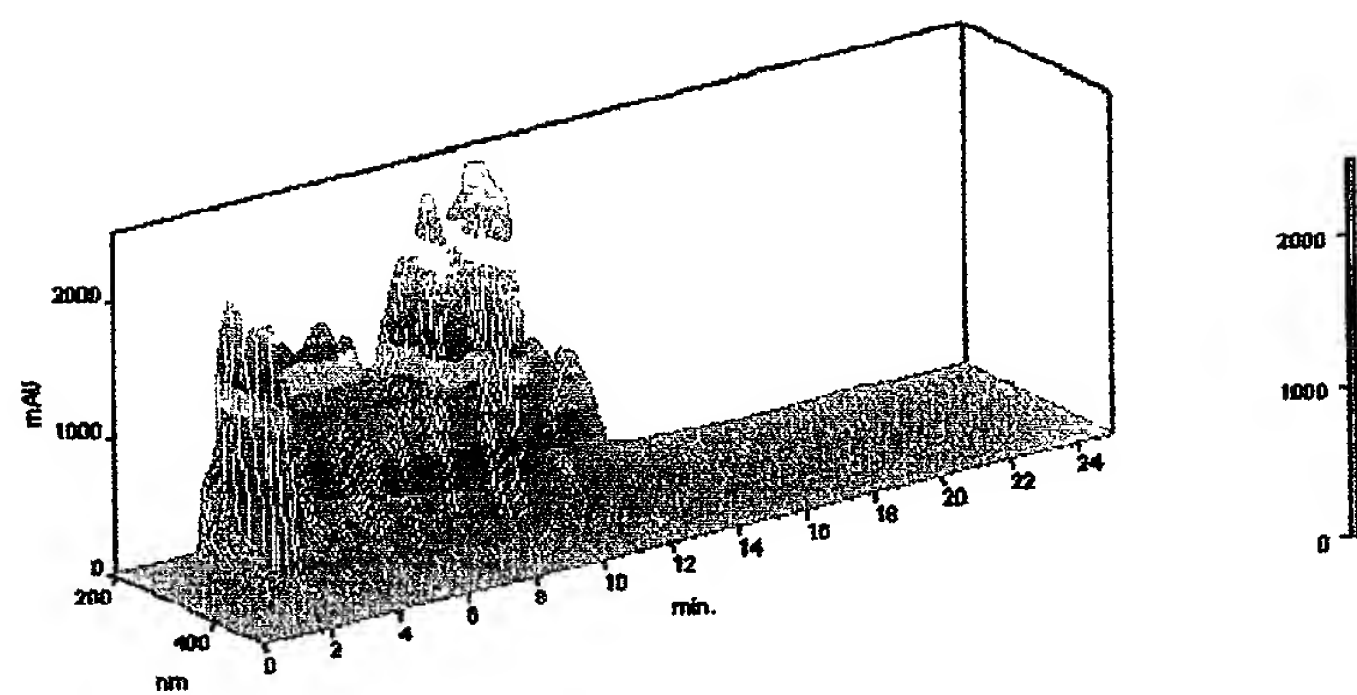




Figure 72

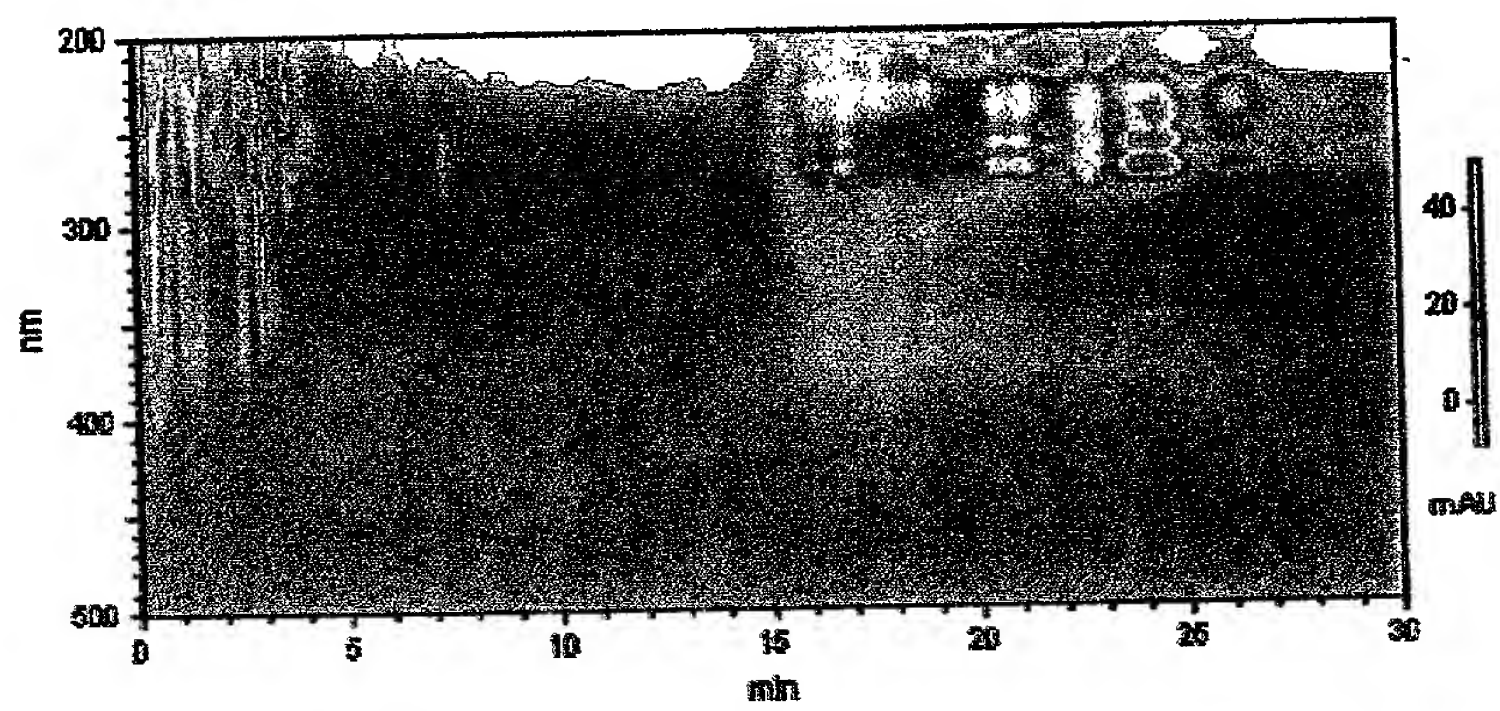
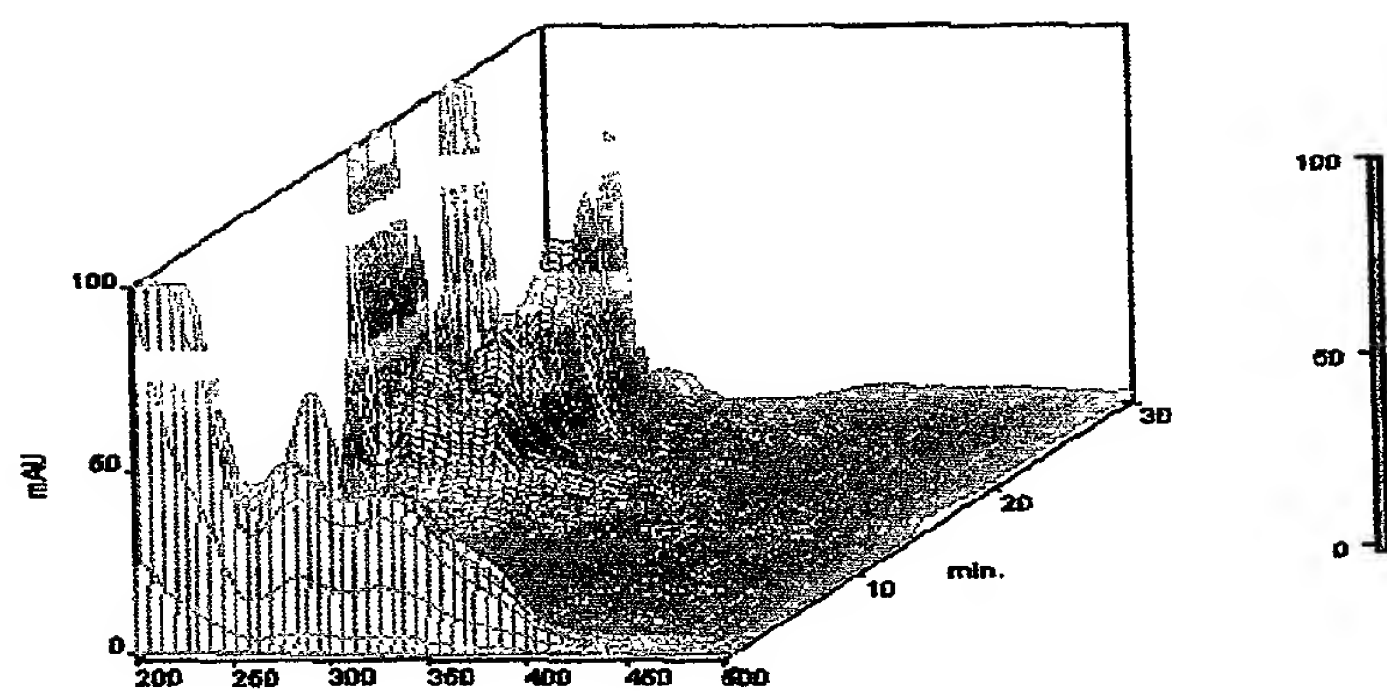


Figure 73

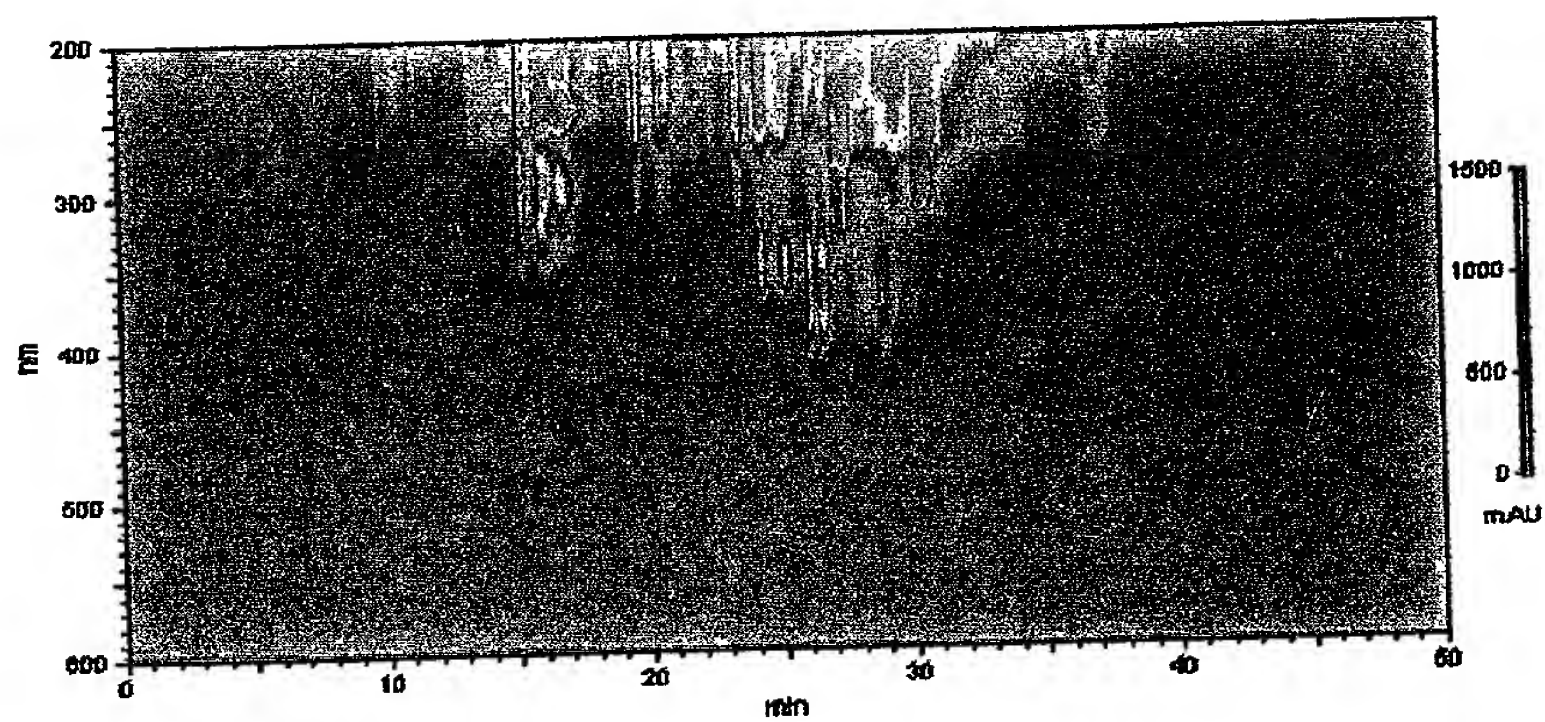
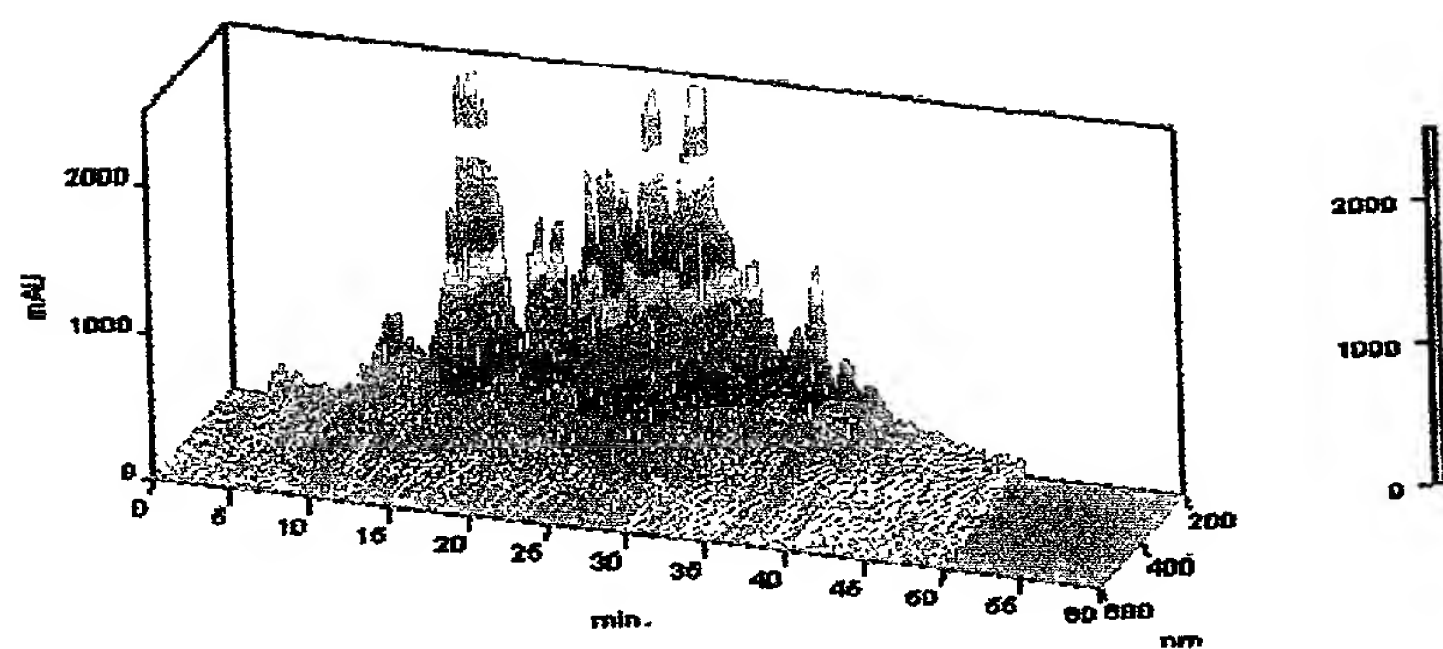


Figure 74

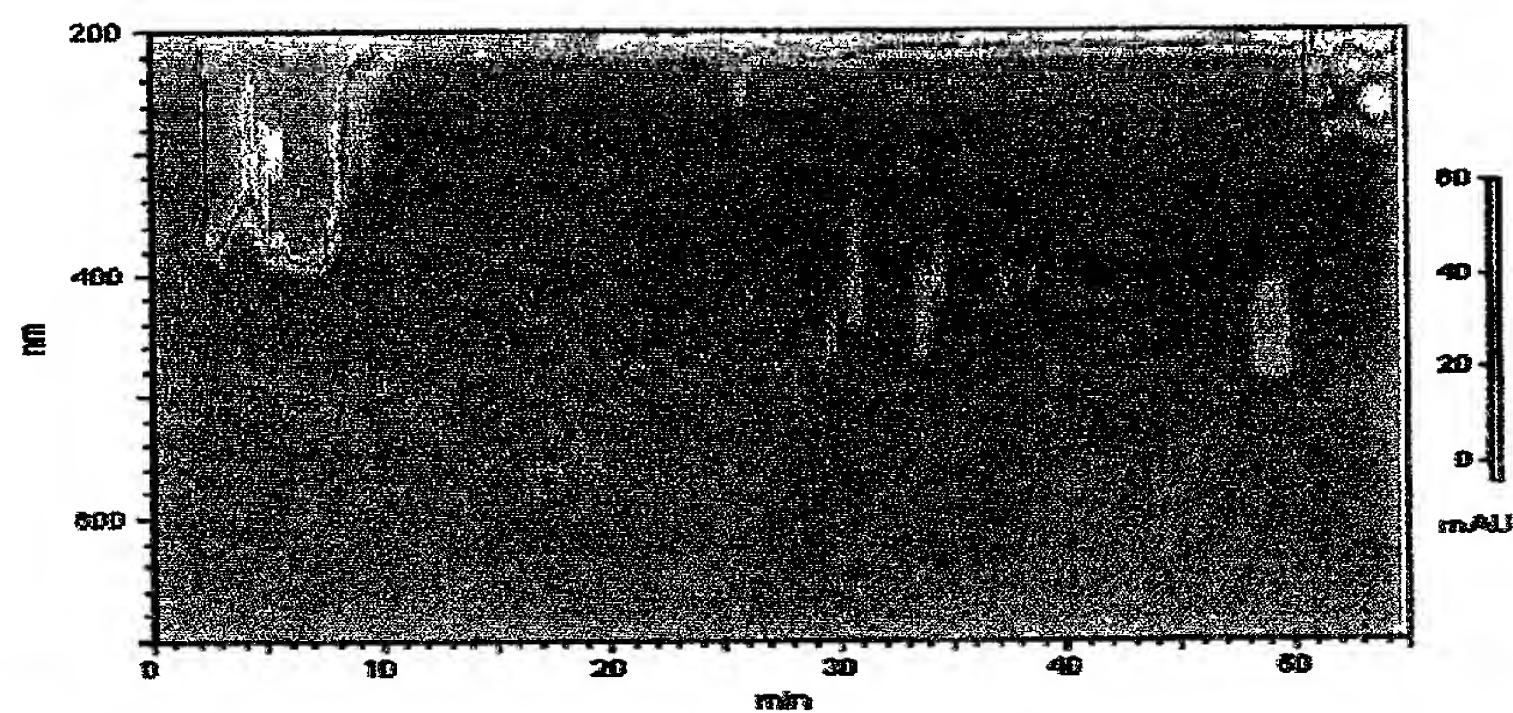
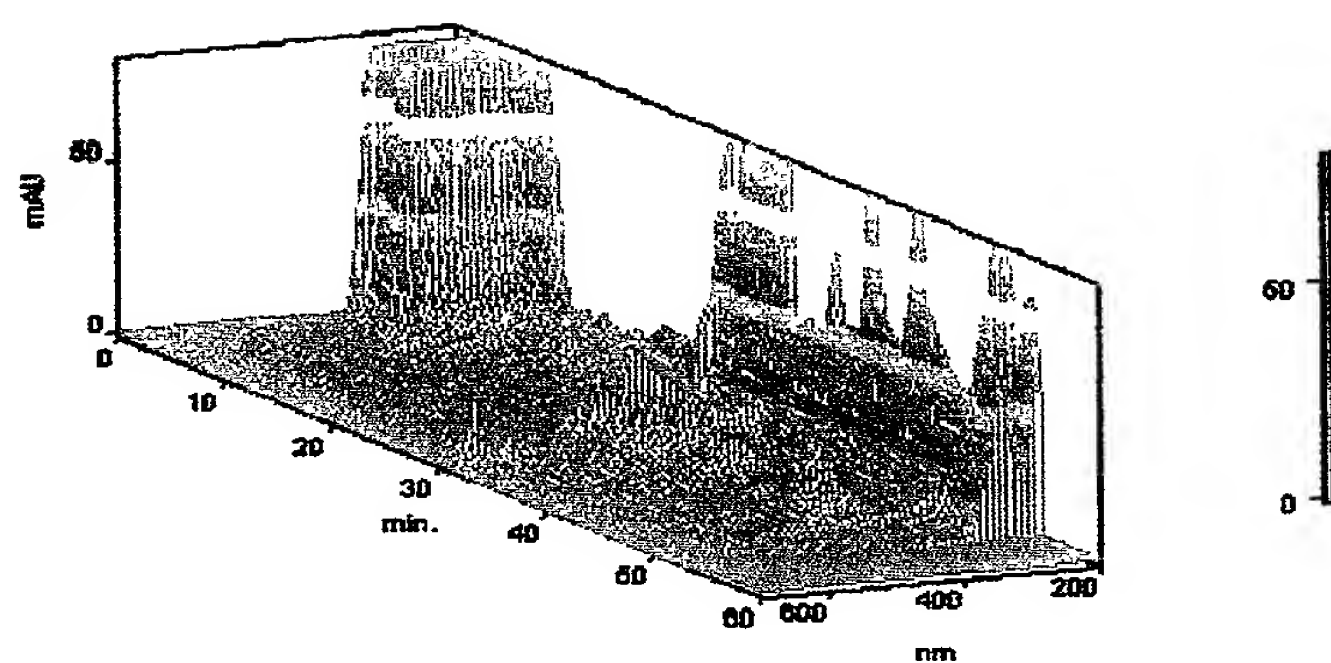


Figure 75

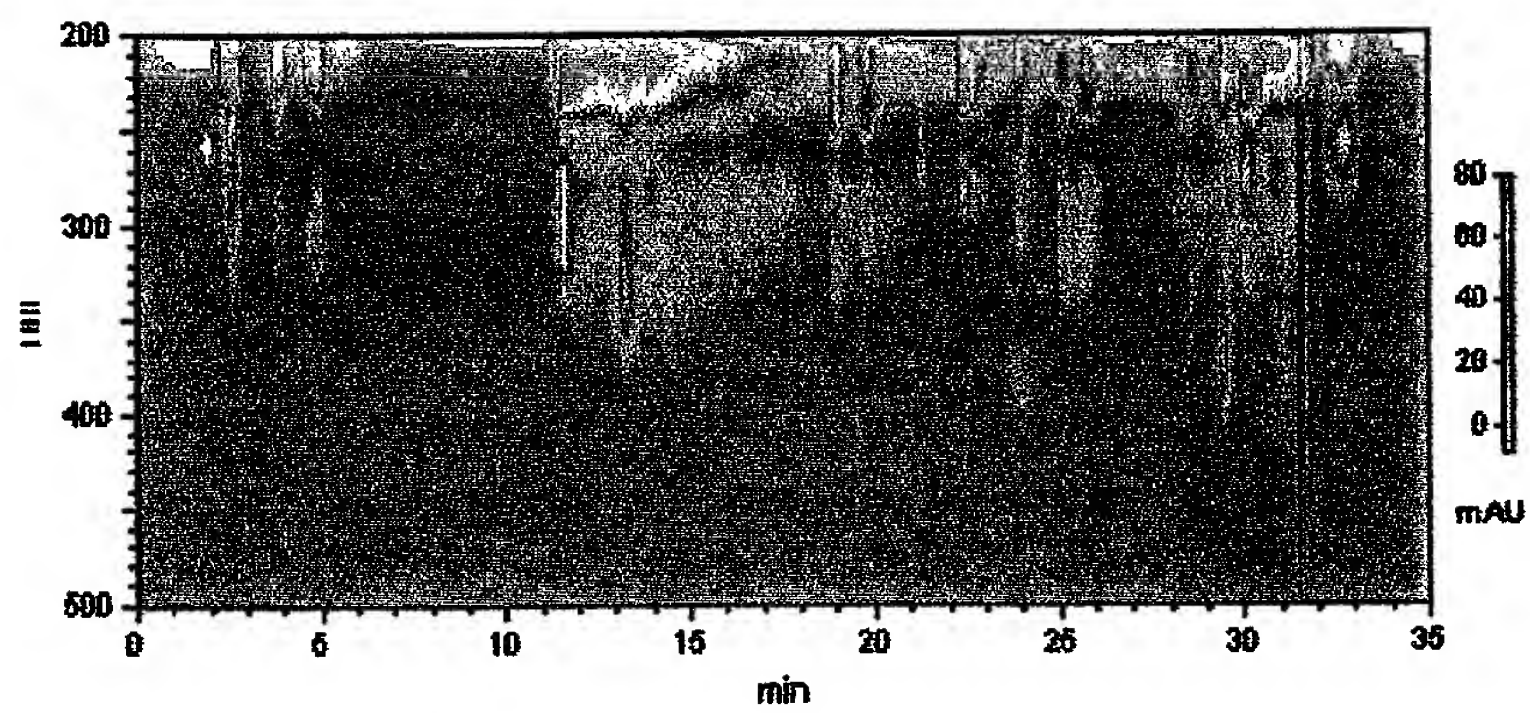
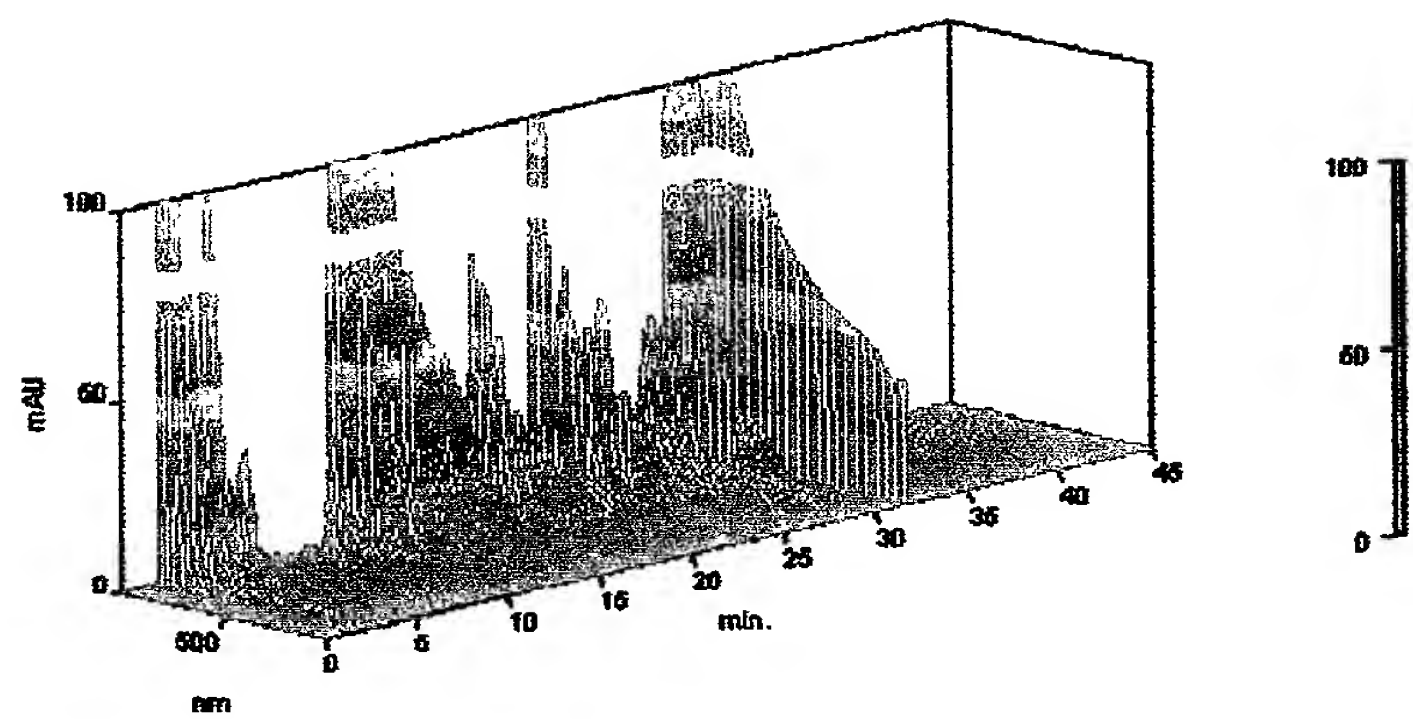


Figure 76

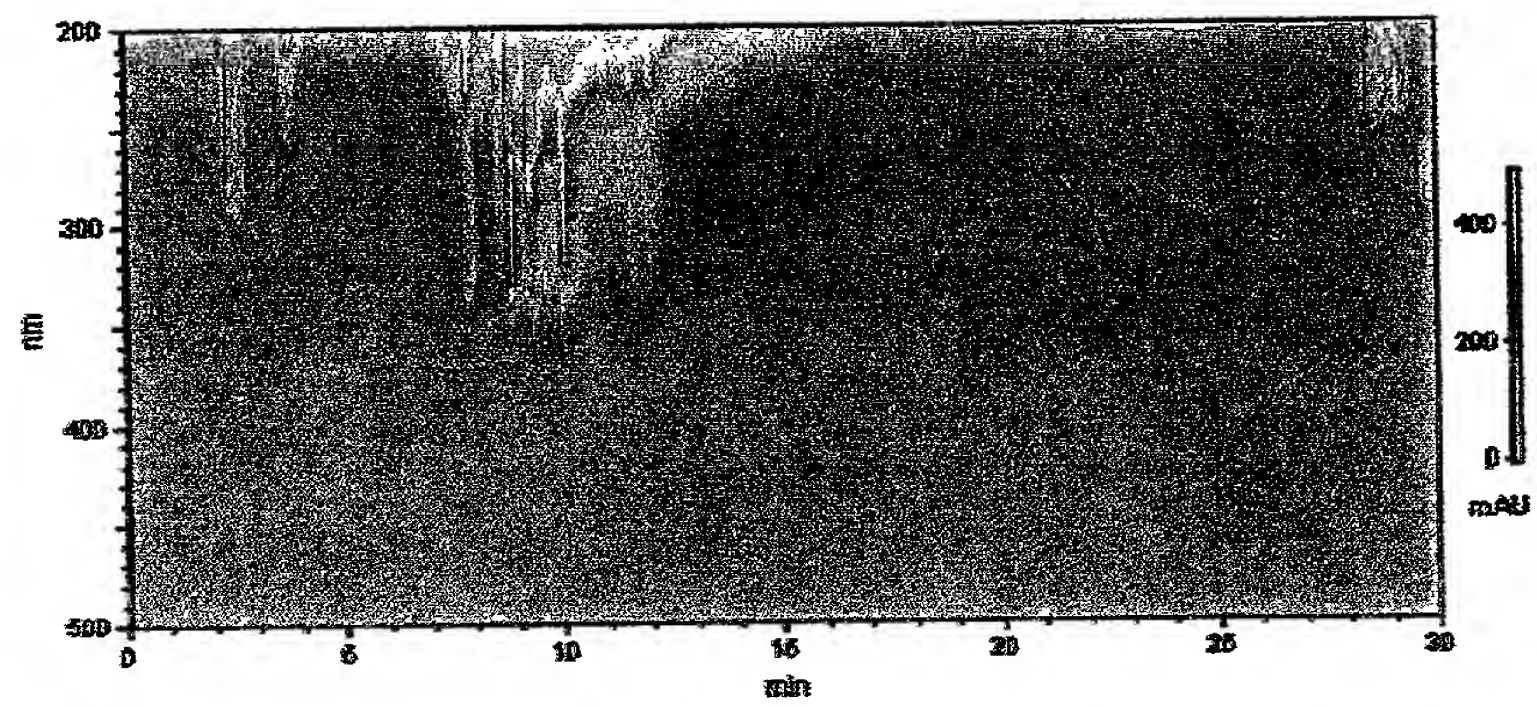
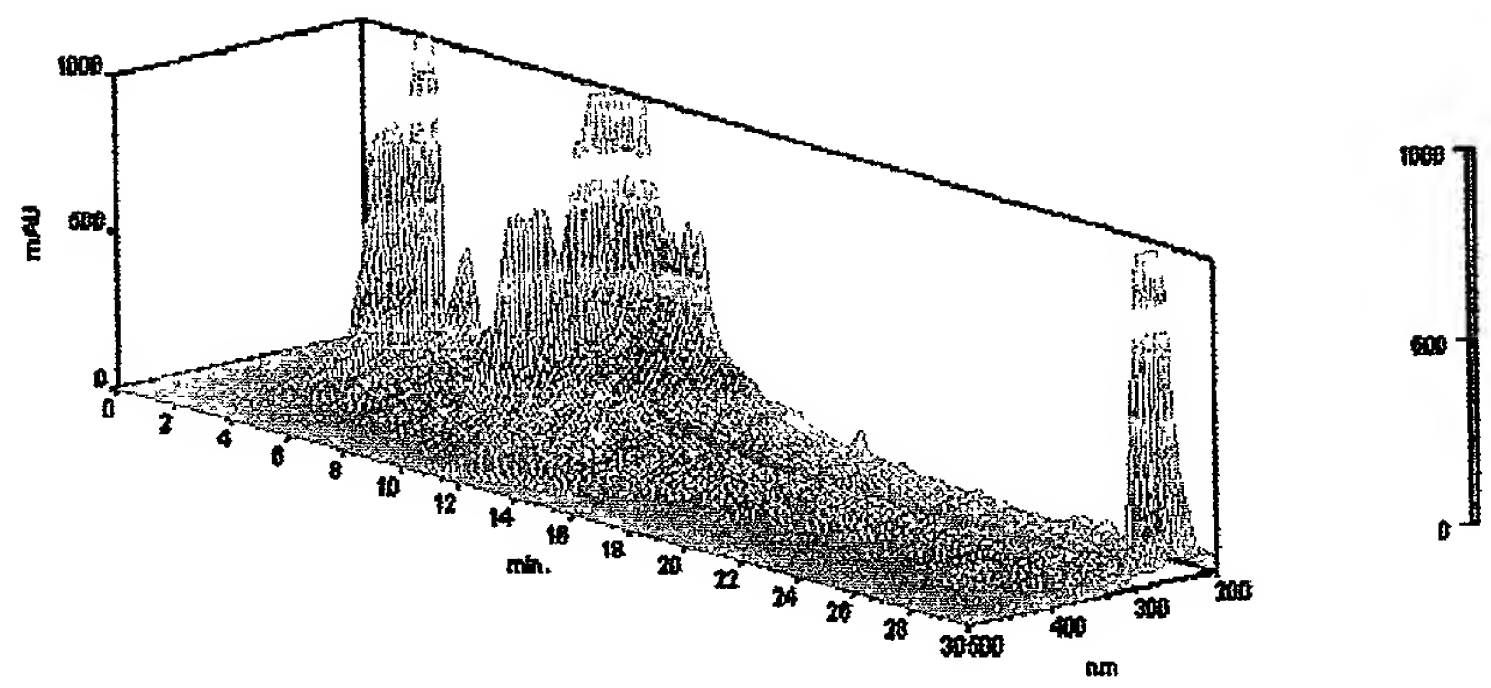




Figure 77

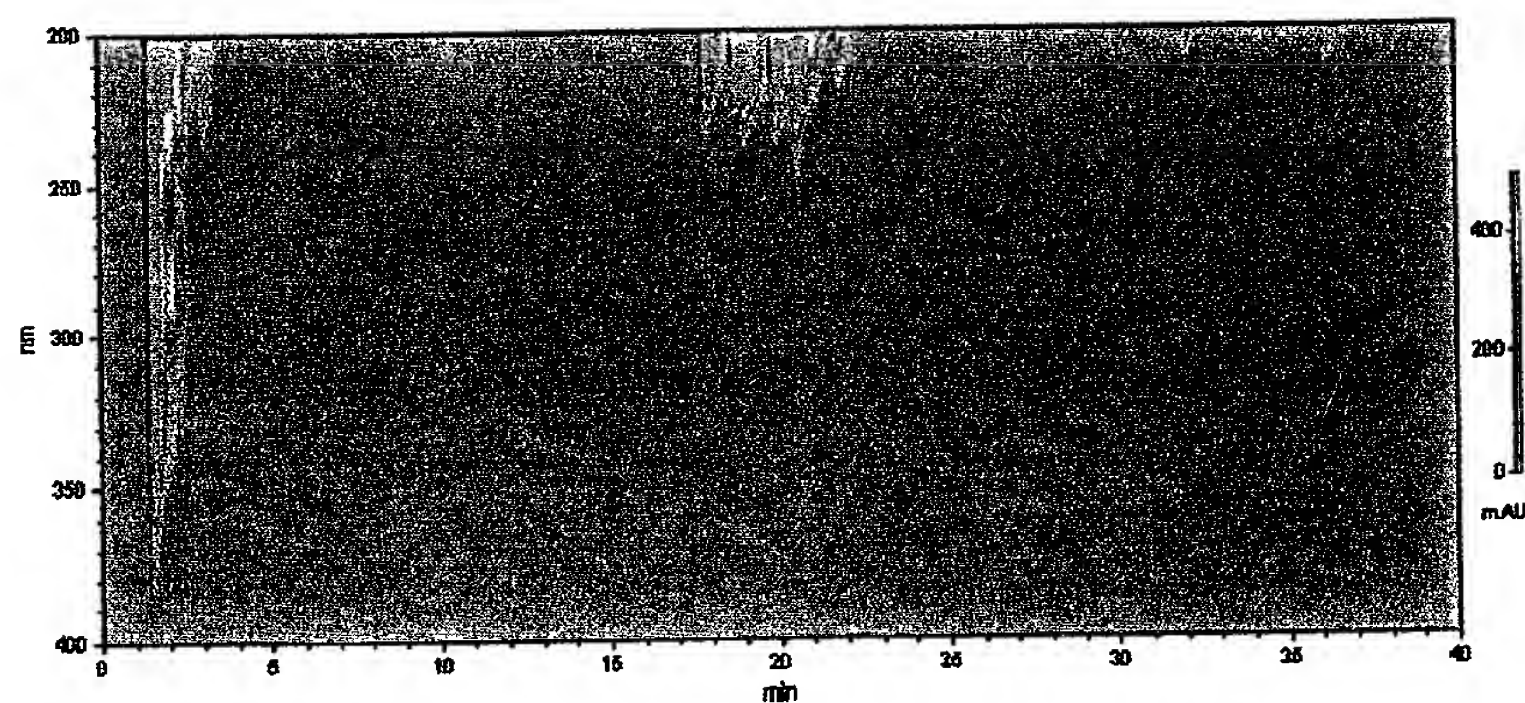
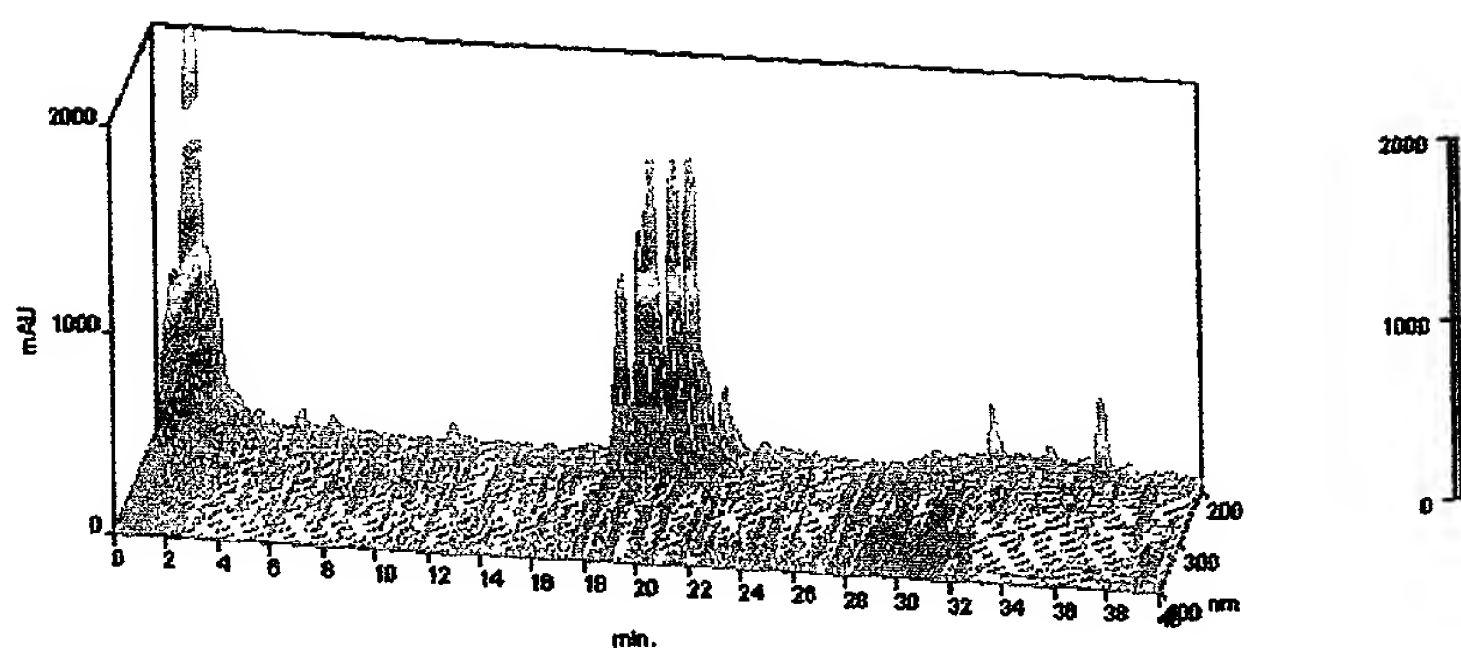


Figure 78

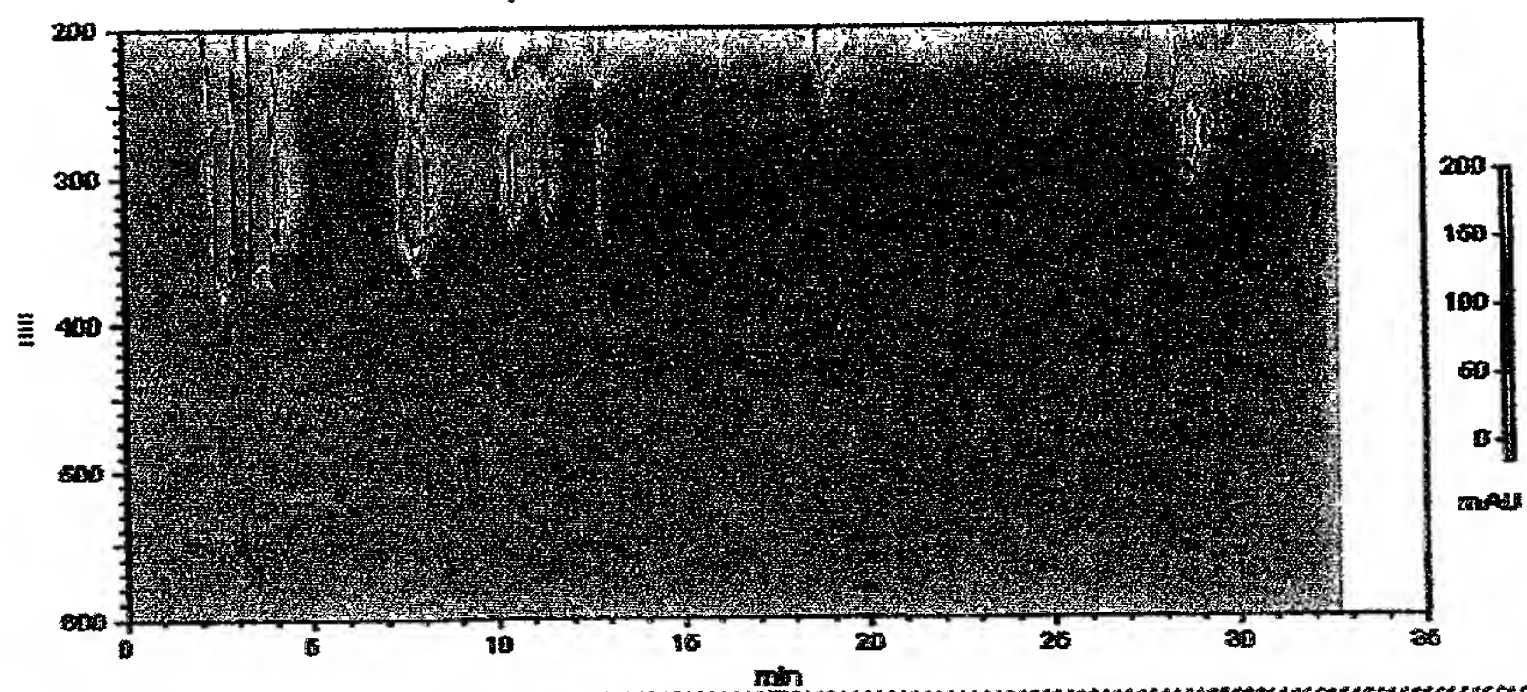
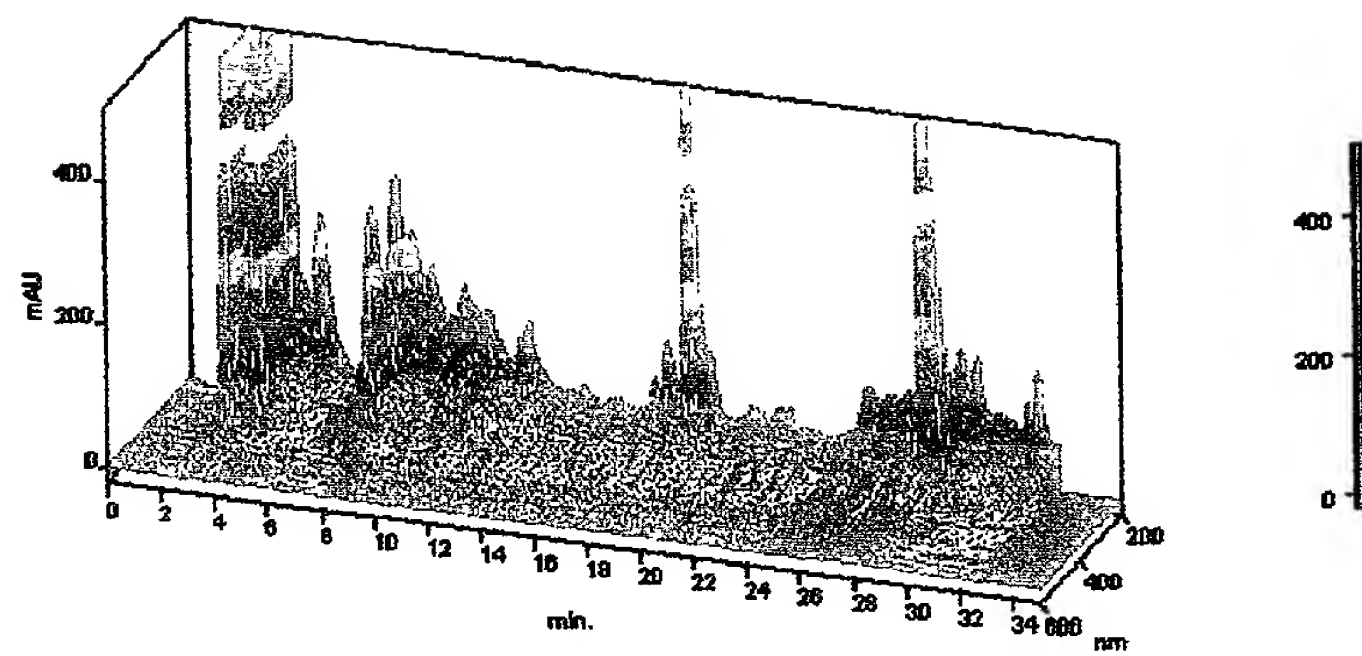


Figure 79

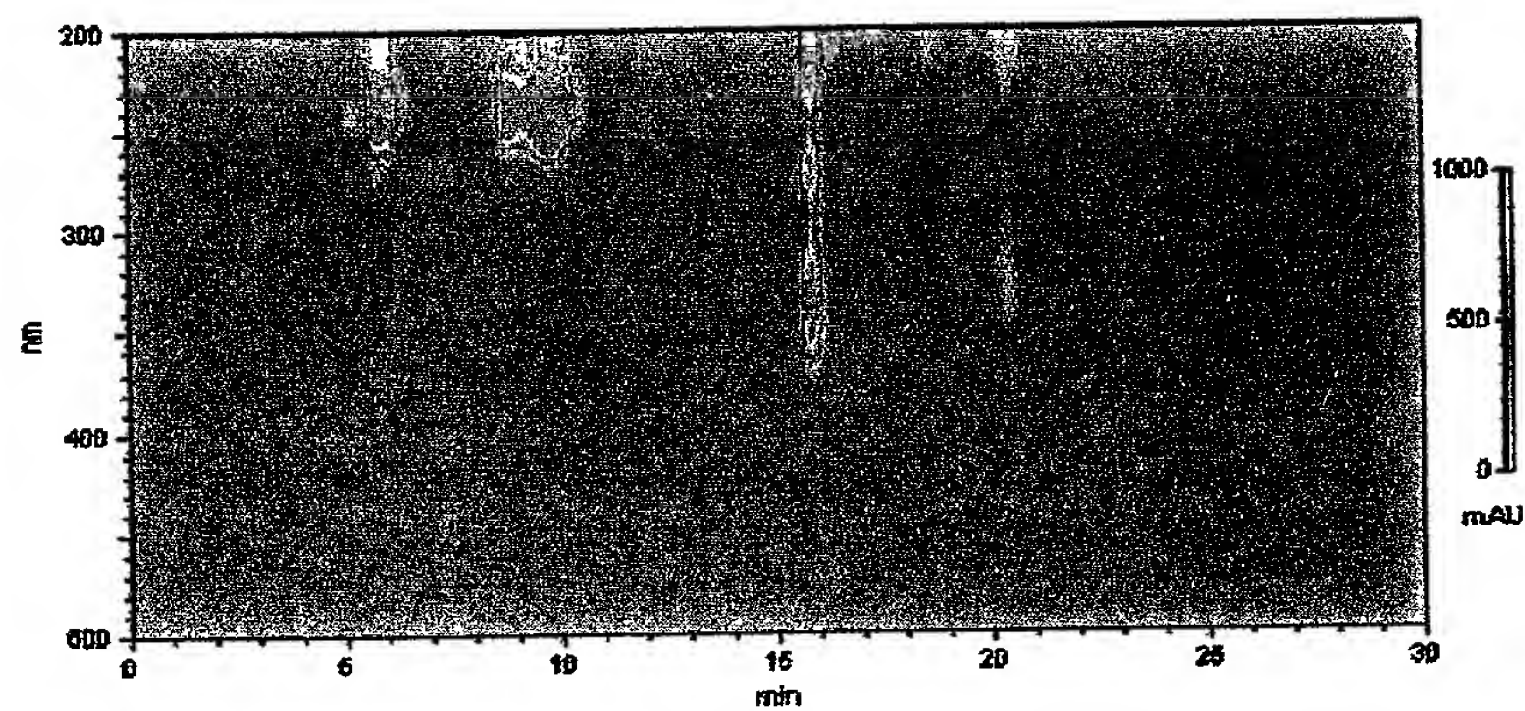
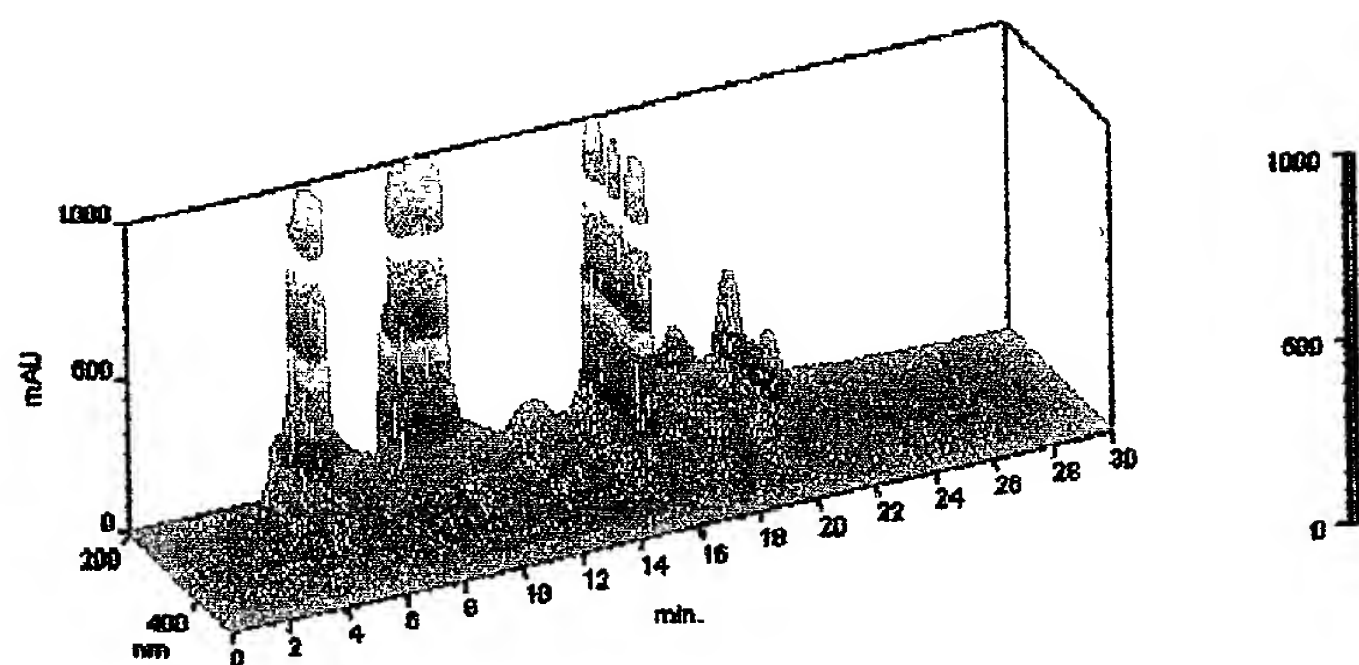


Figure 80

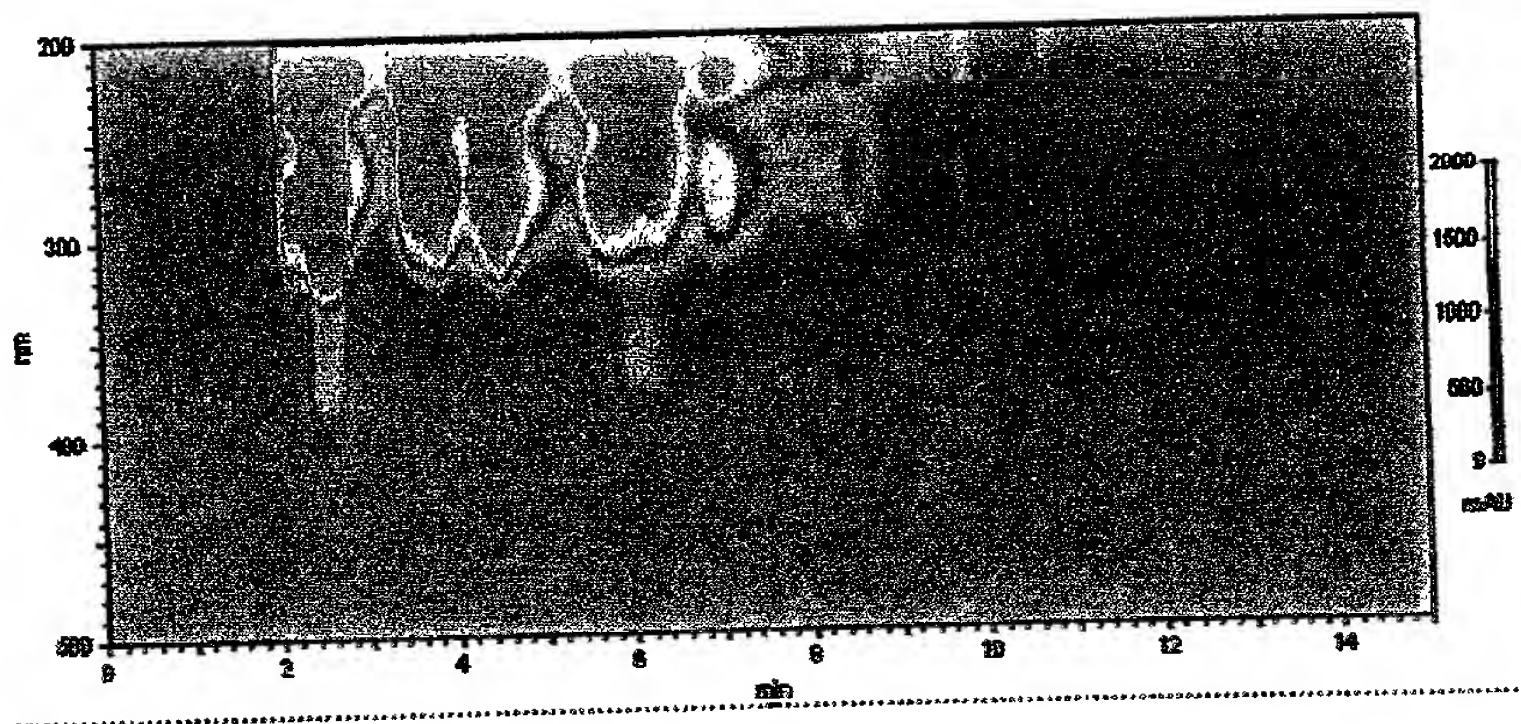
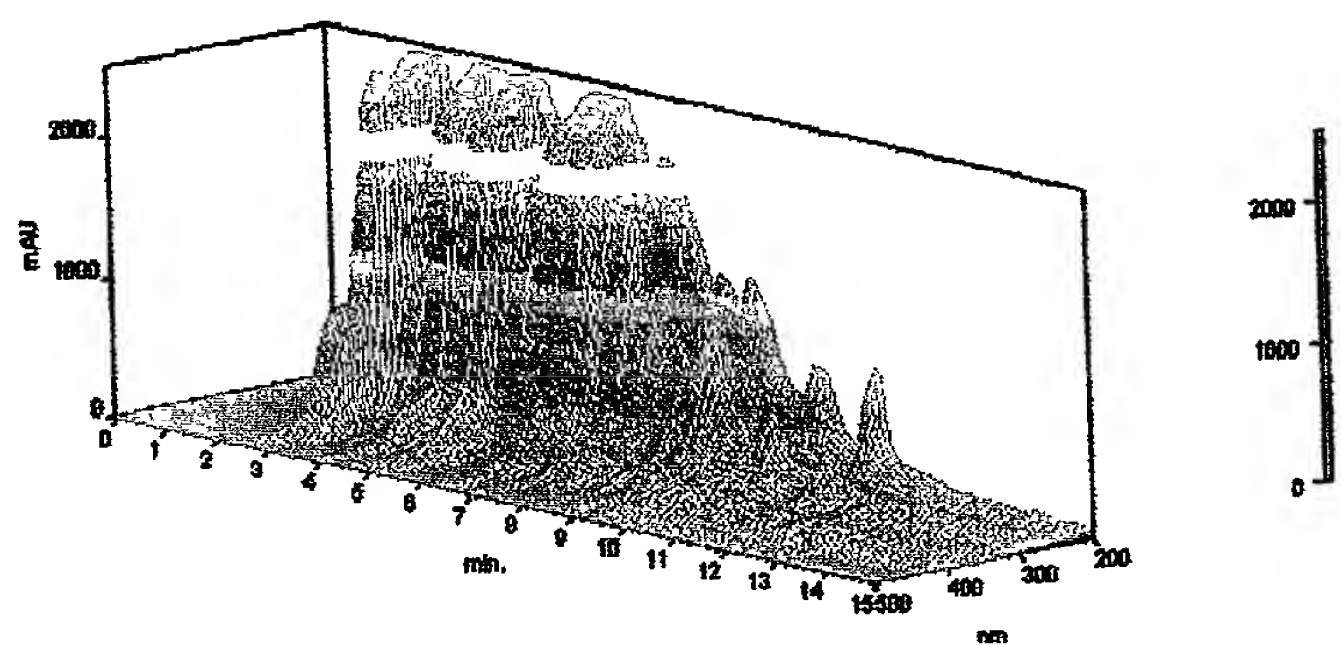


Figure 81

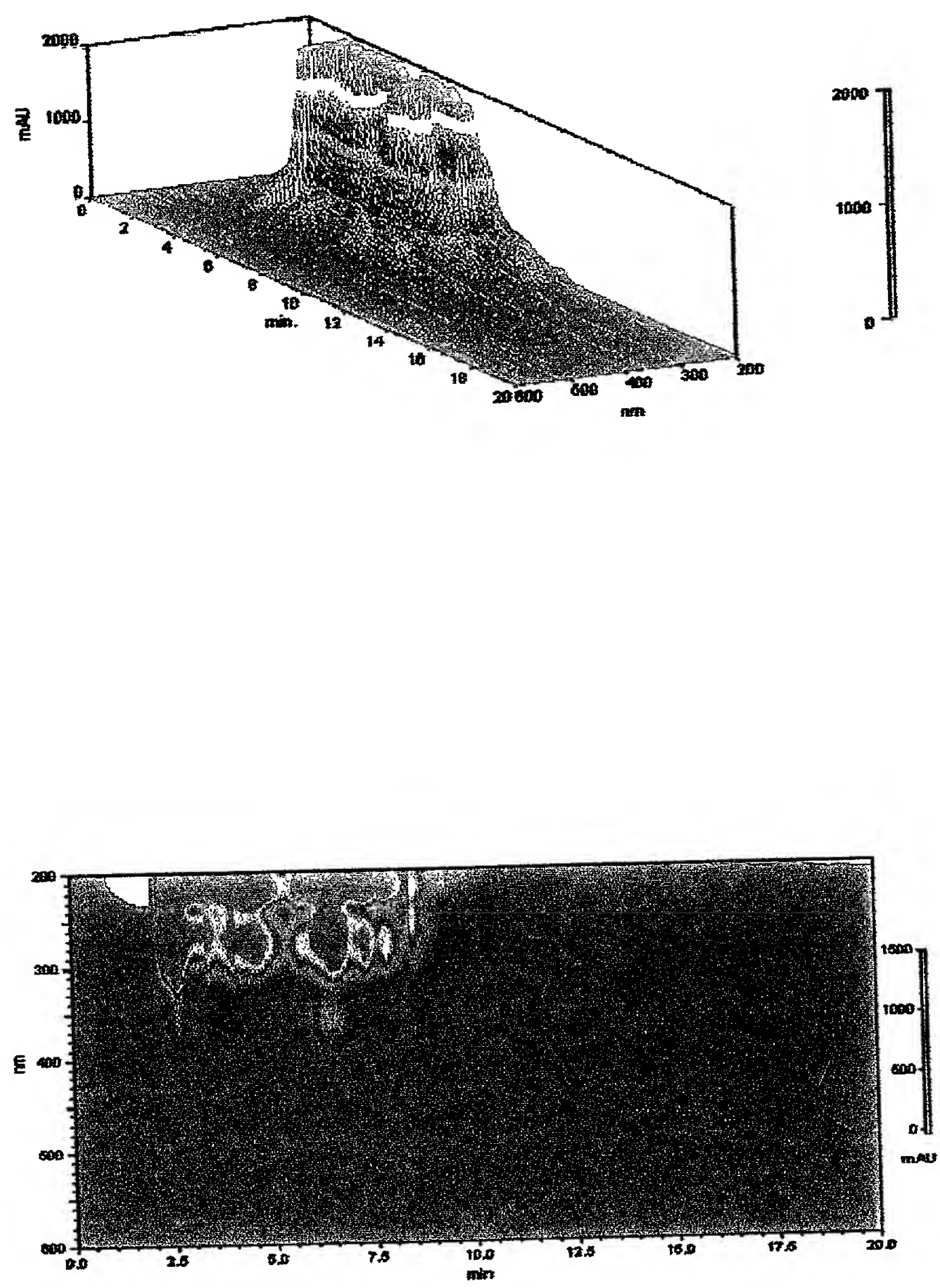




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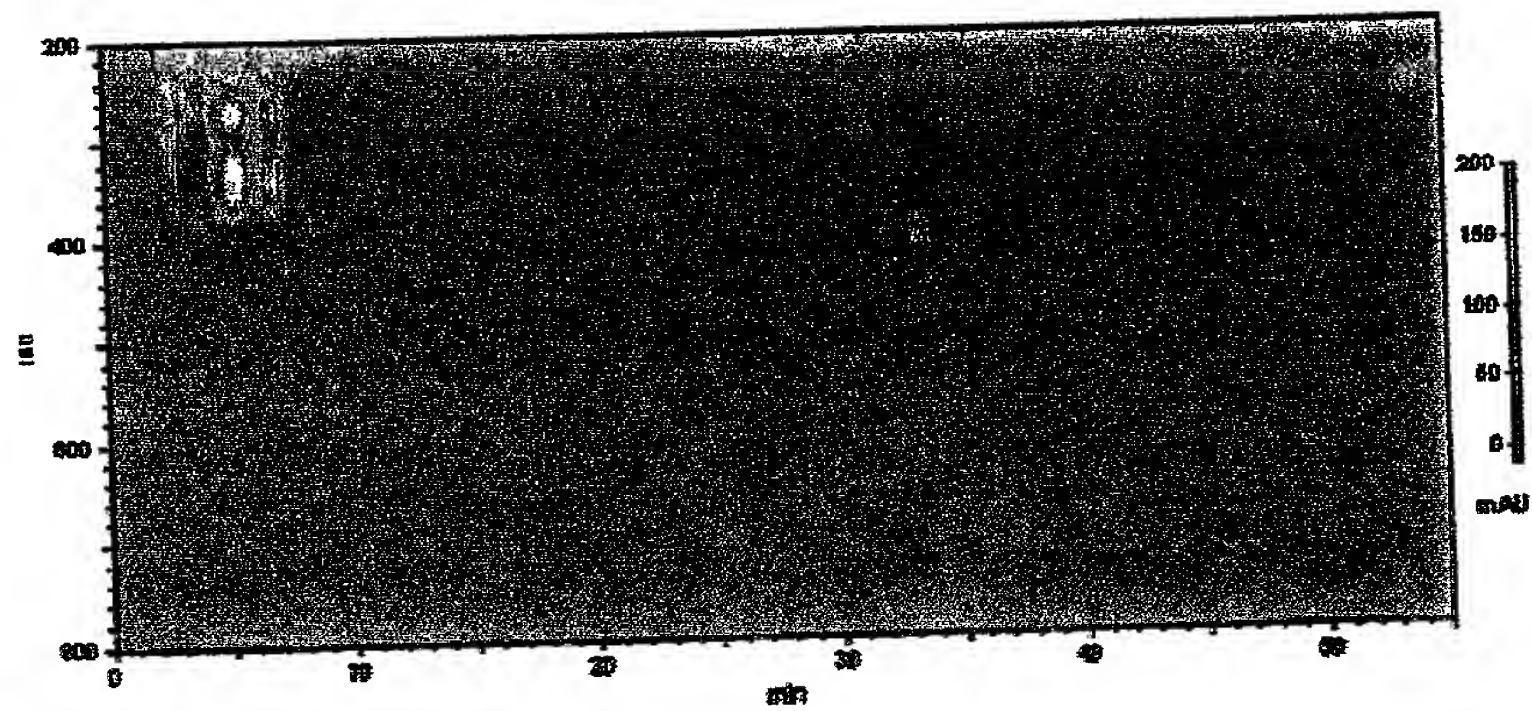
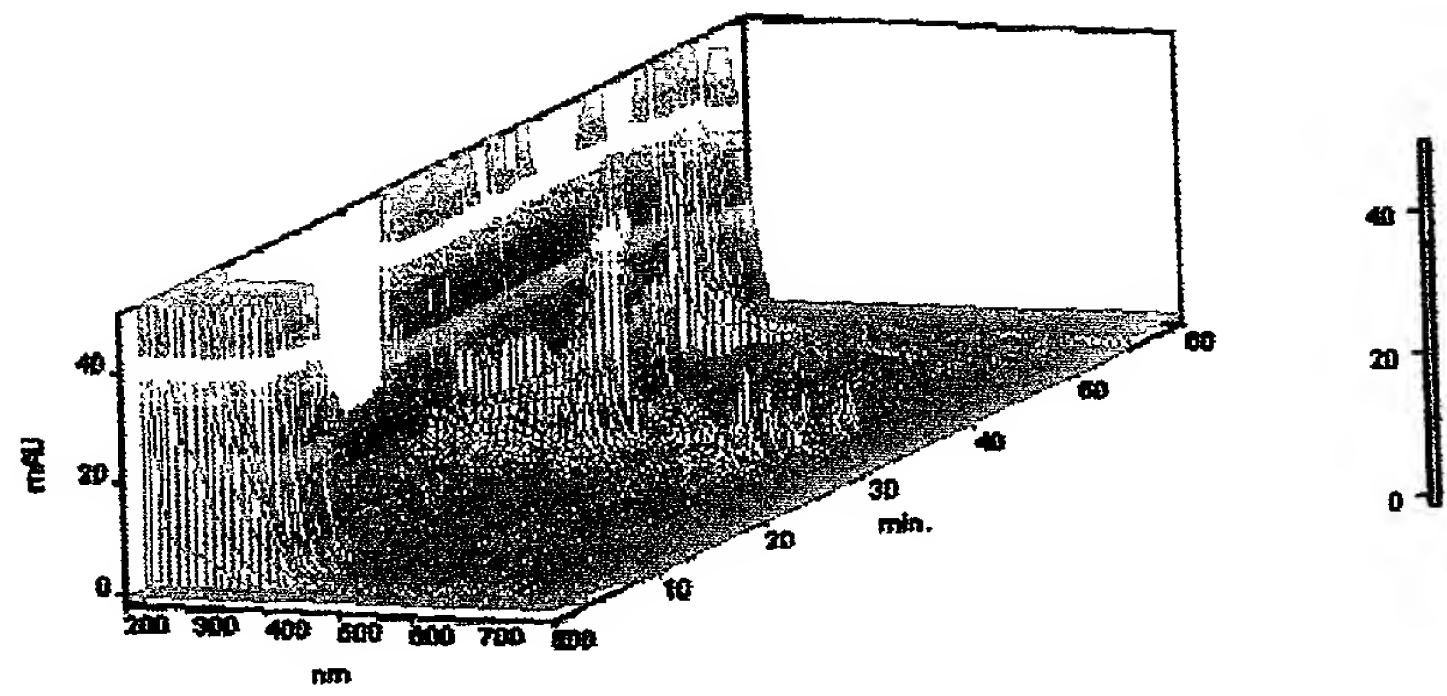


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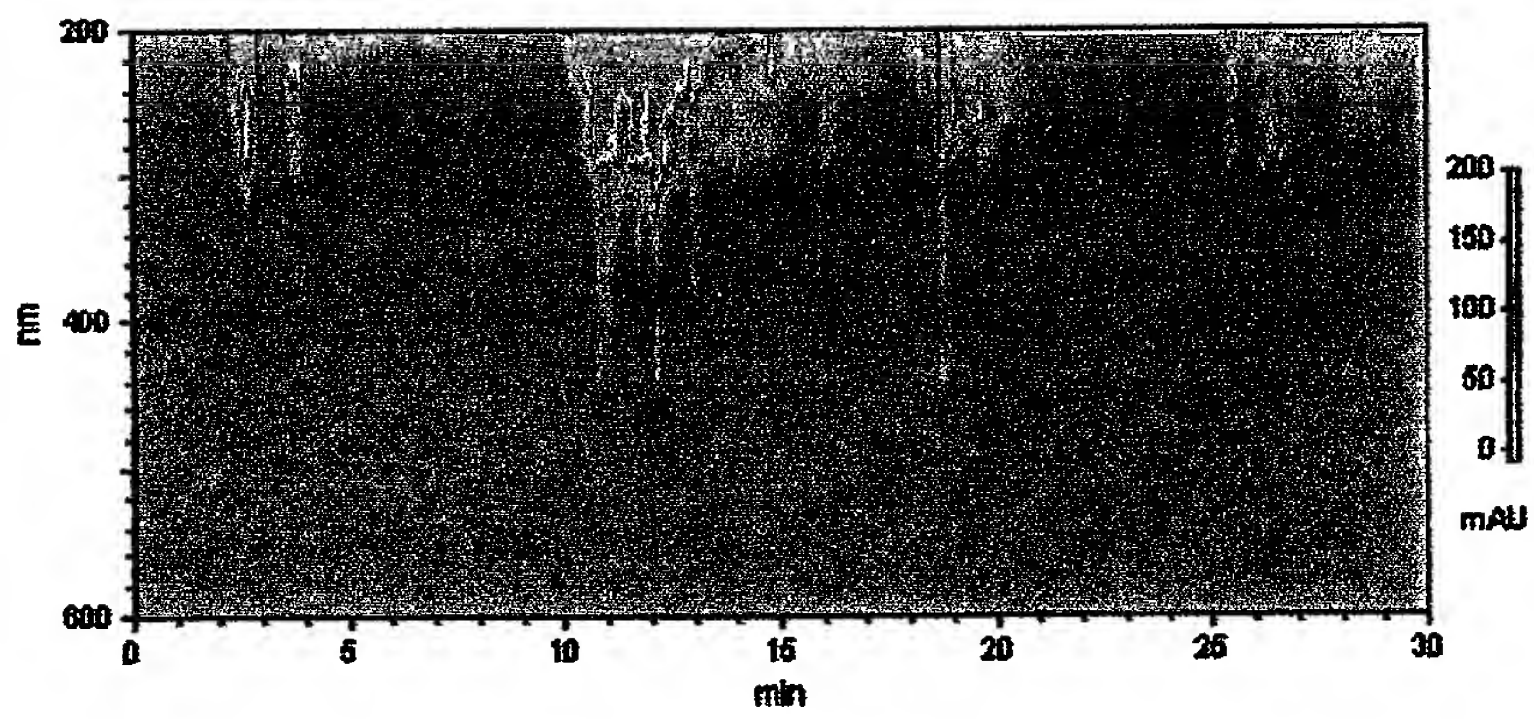
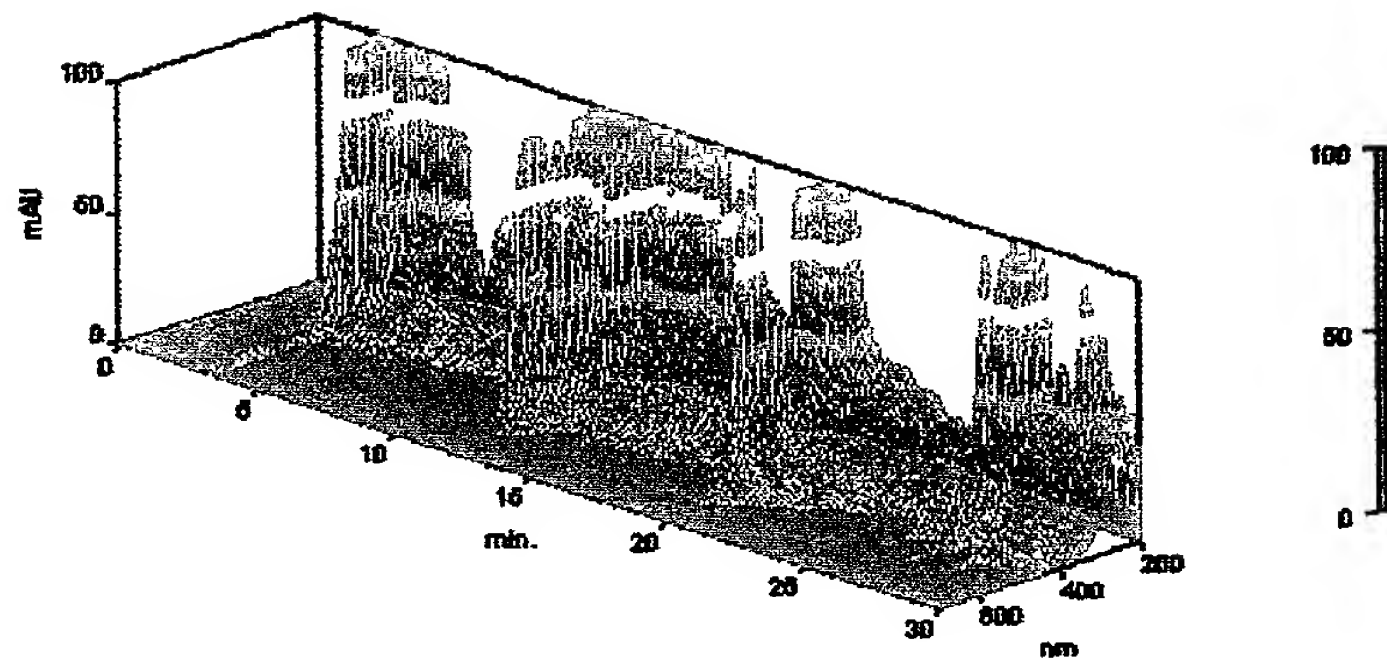


Figure 84

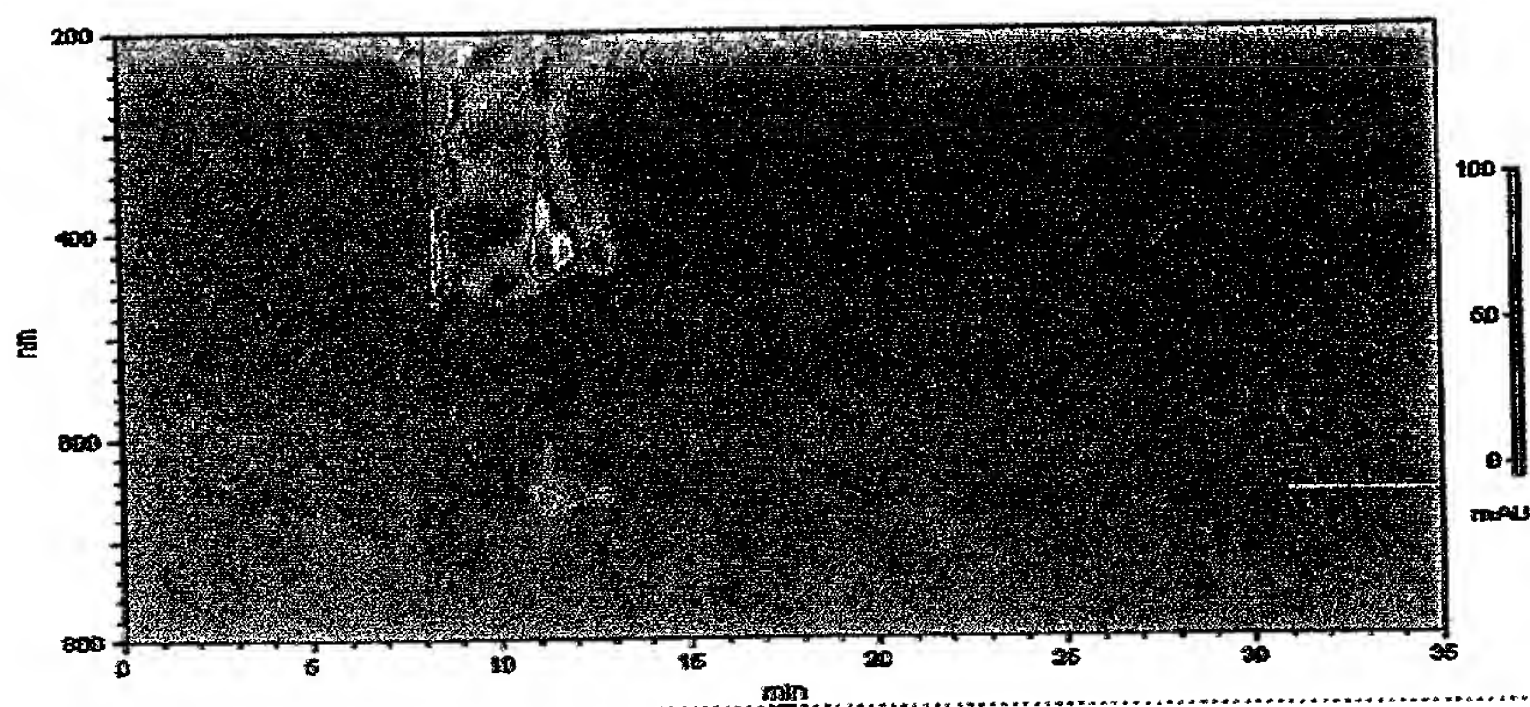
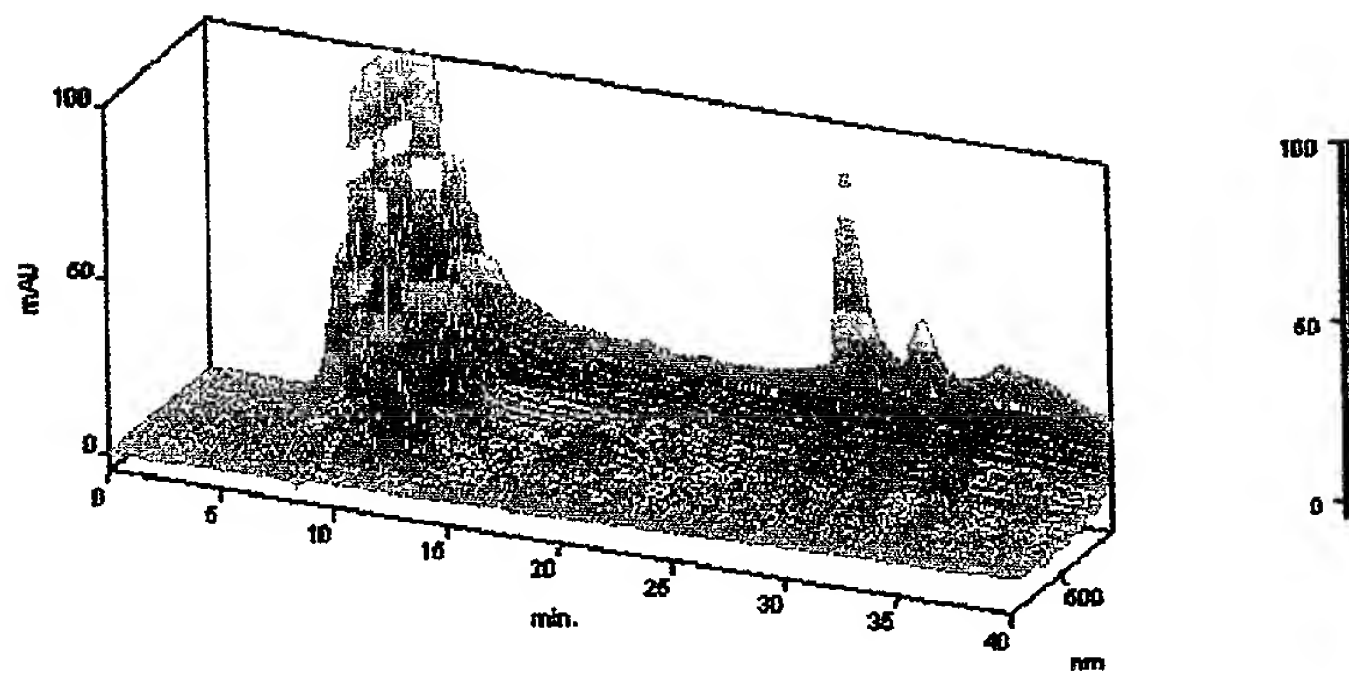


Figure 85

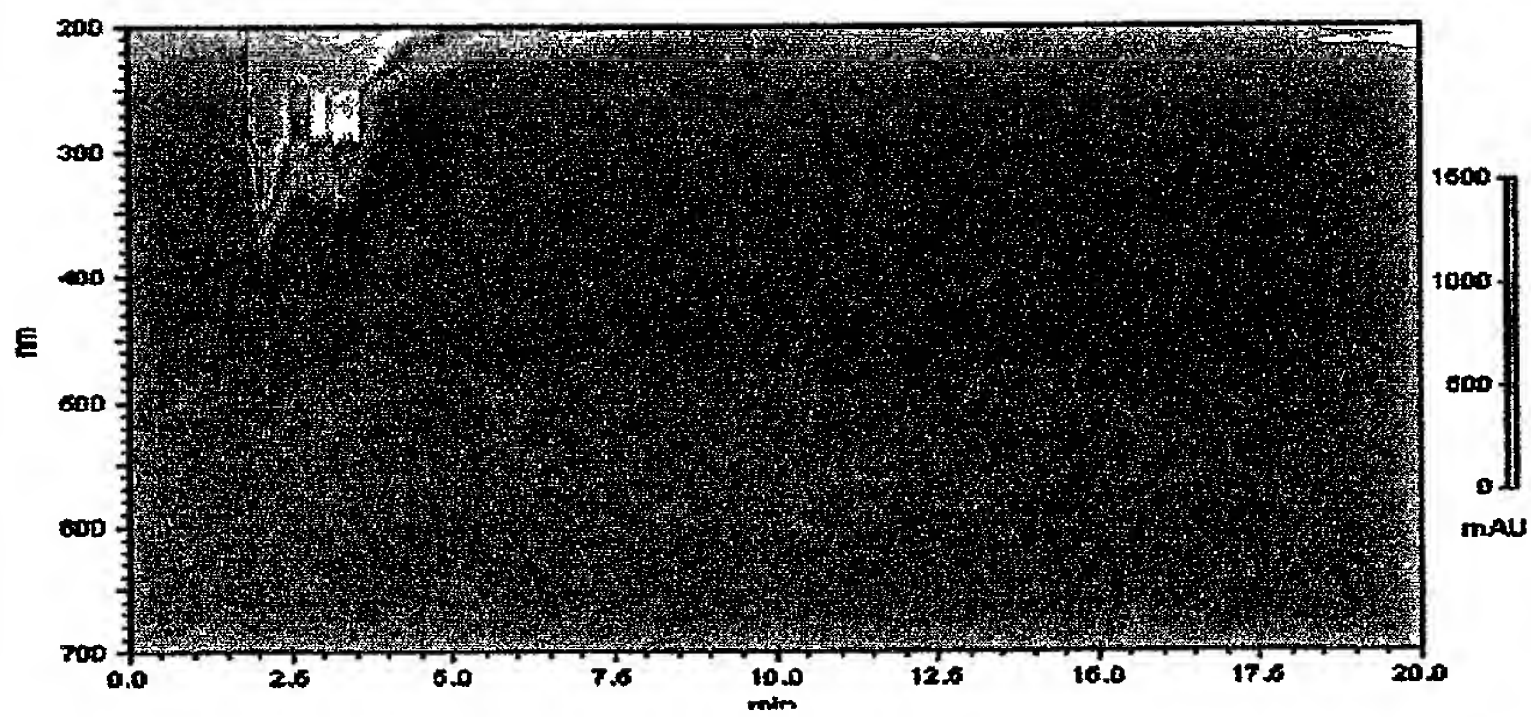
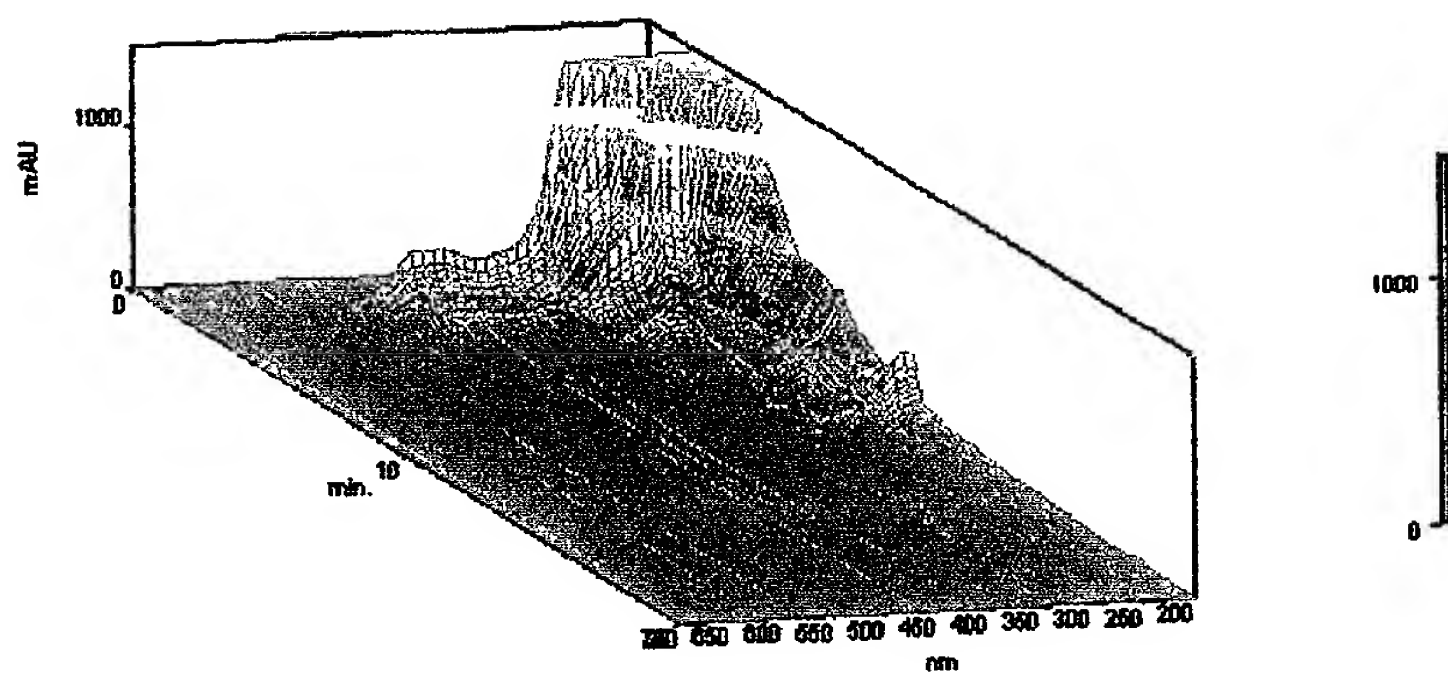


Figure 86

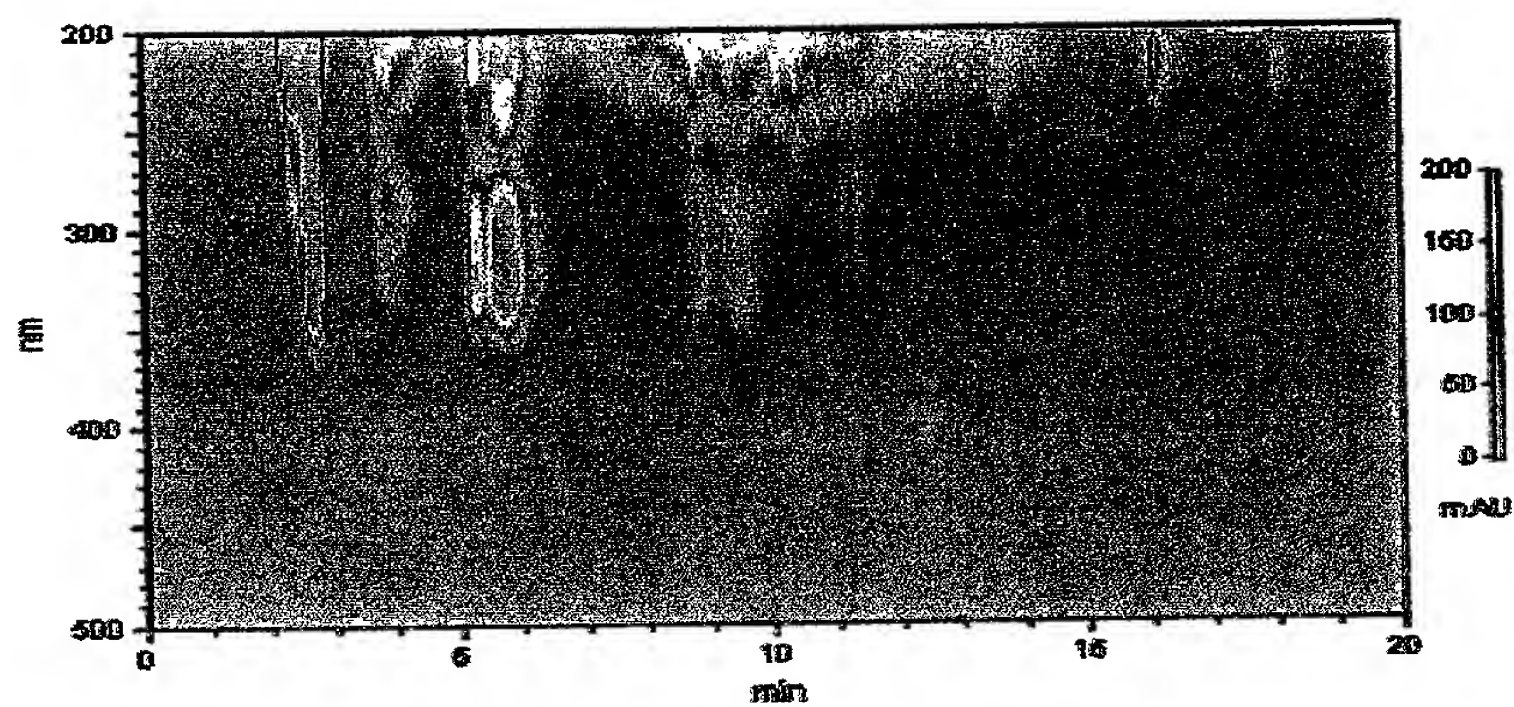
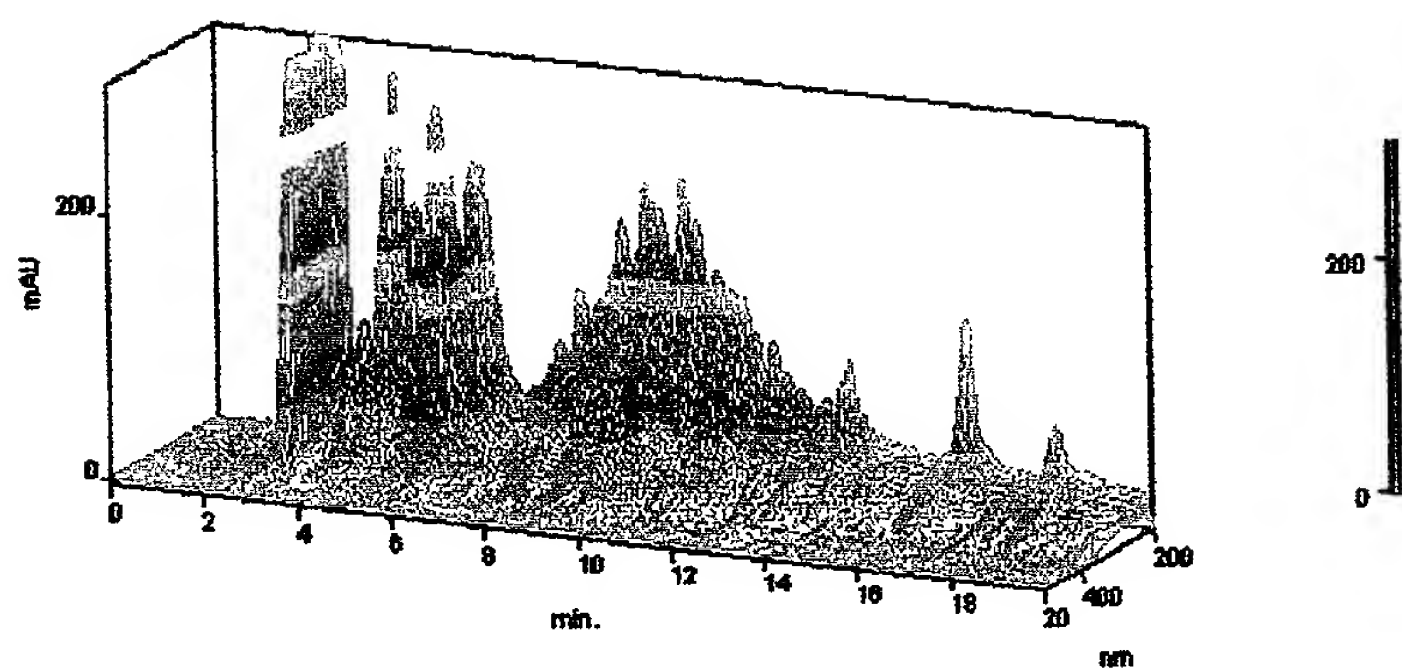




FIGURE 87

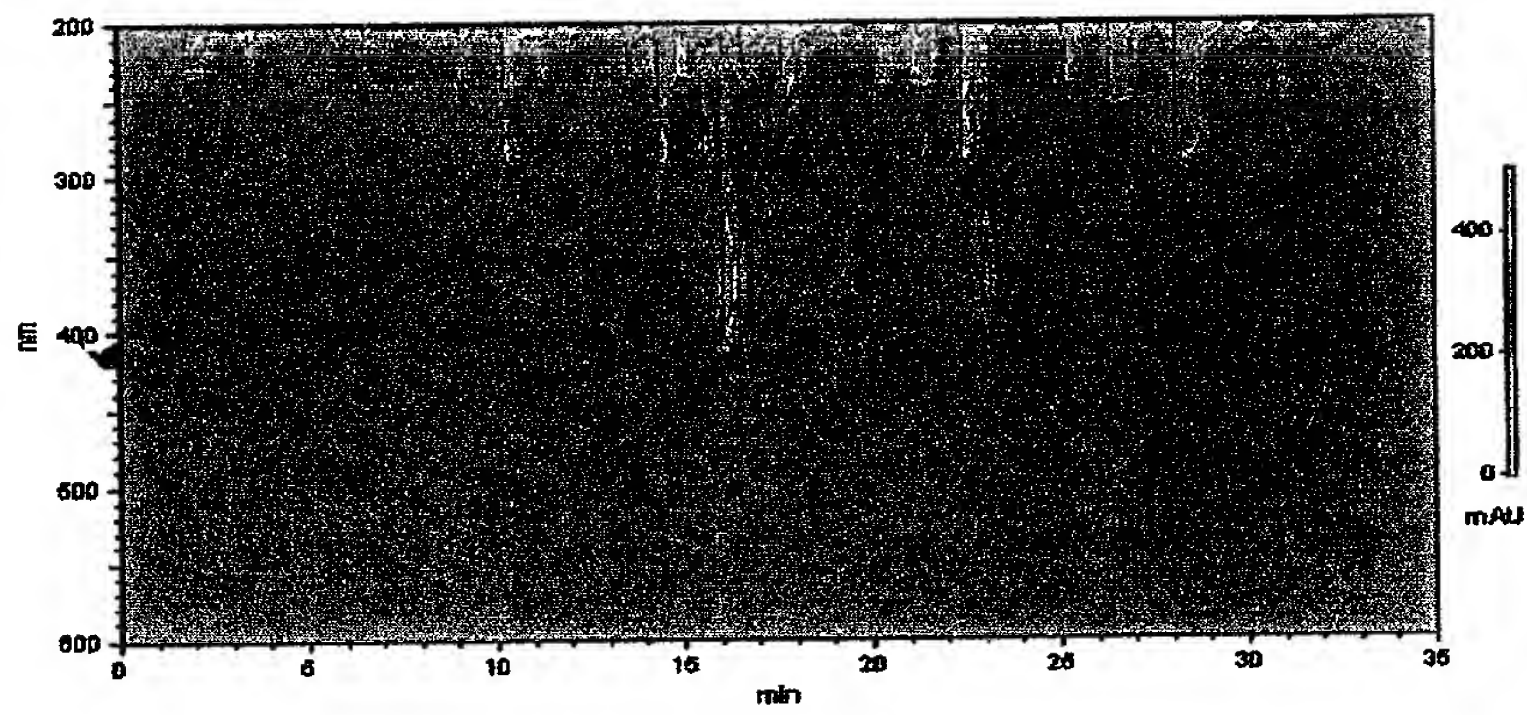
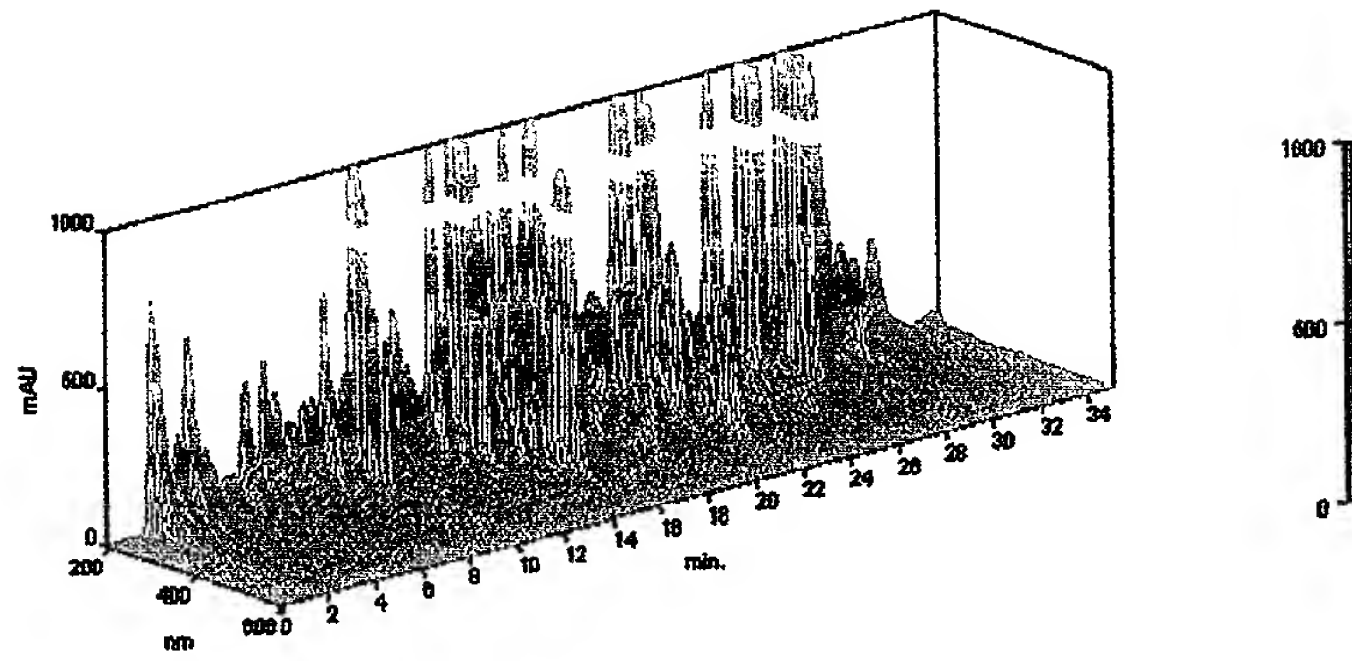


Figure 88

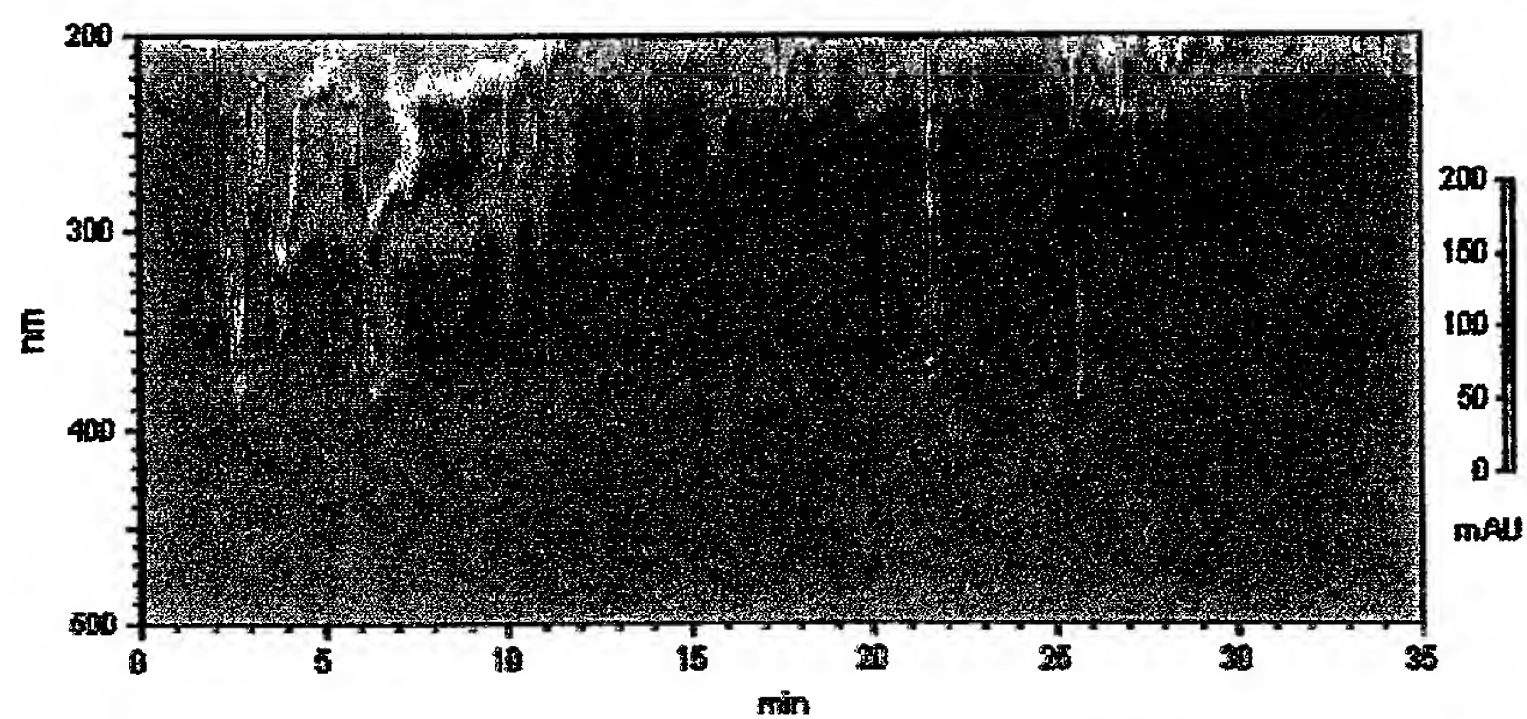
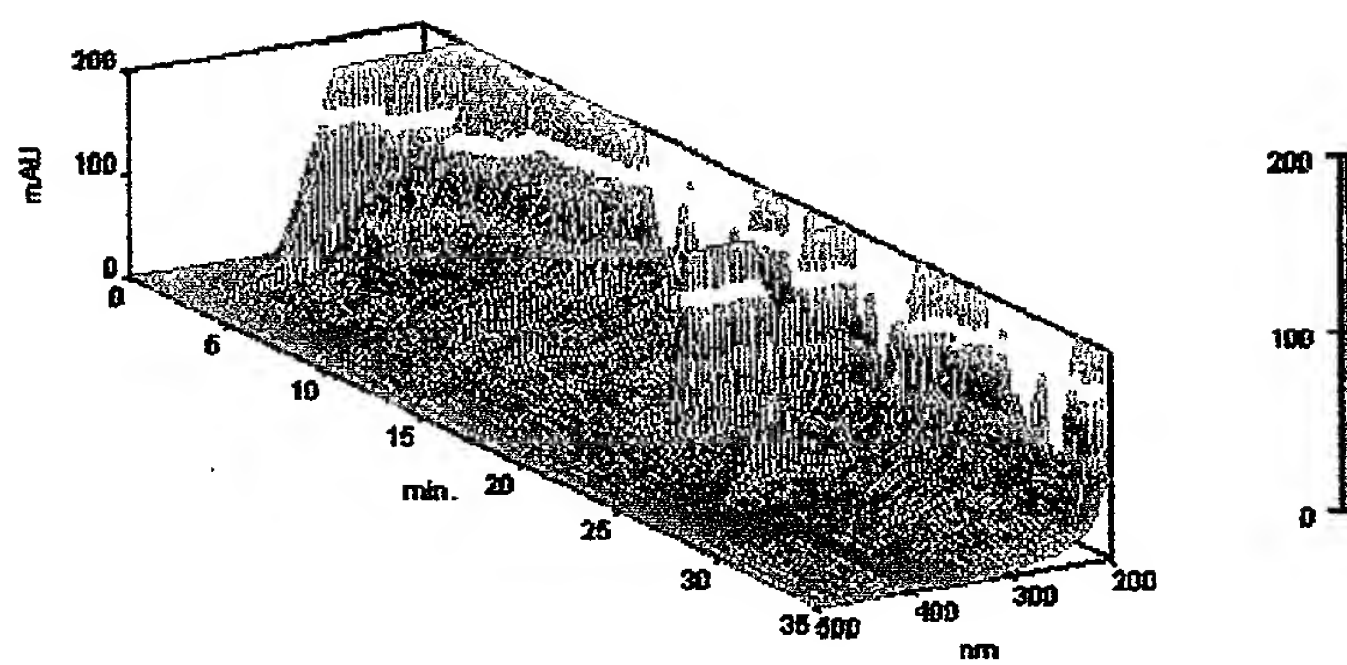


Figure 89

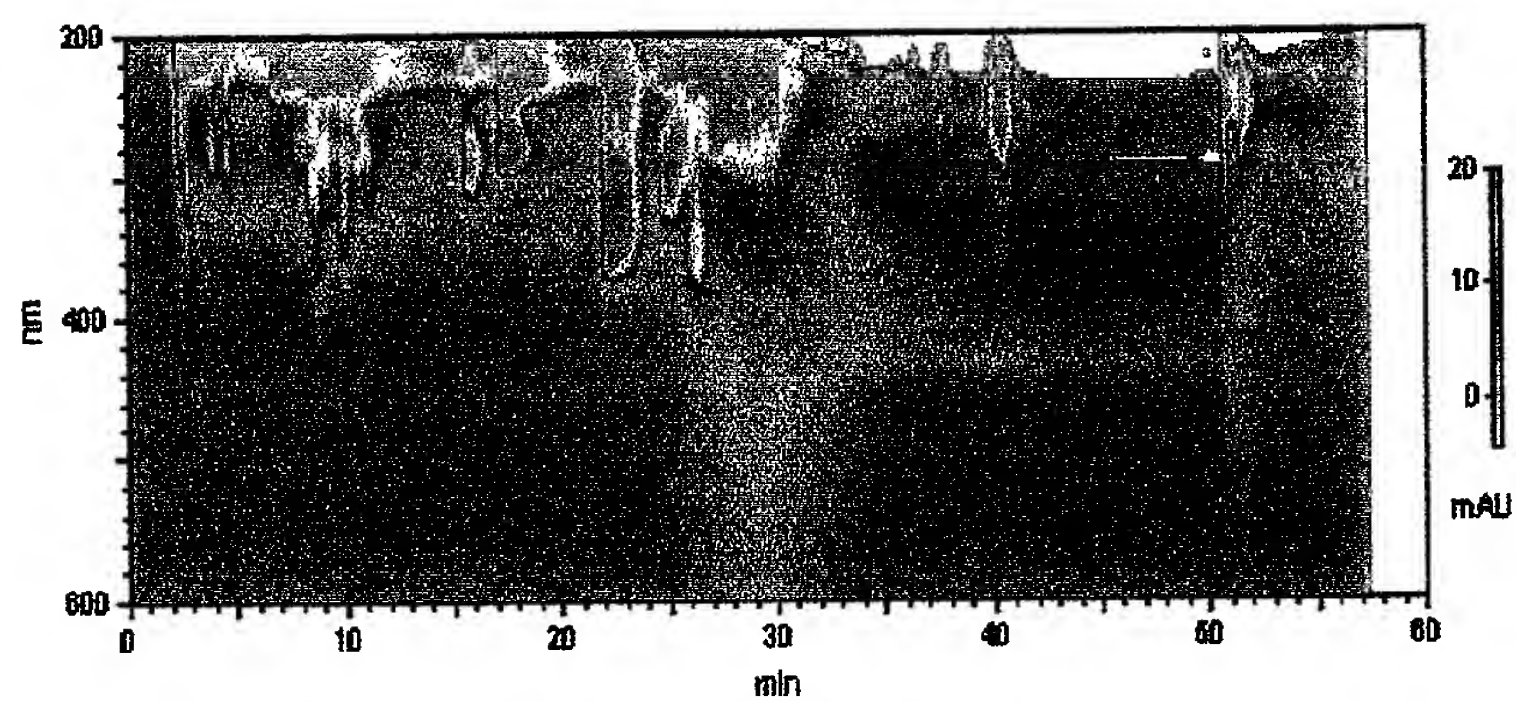
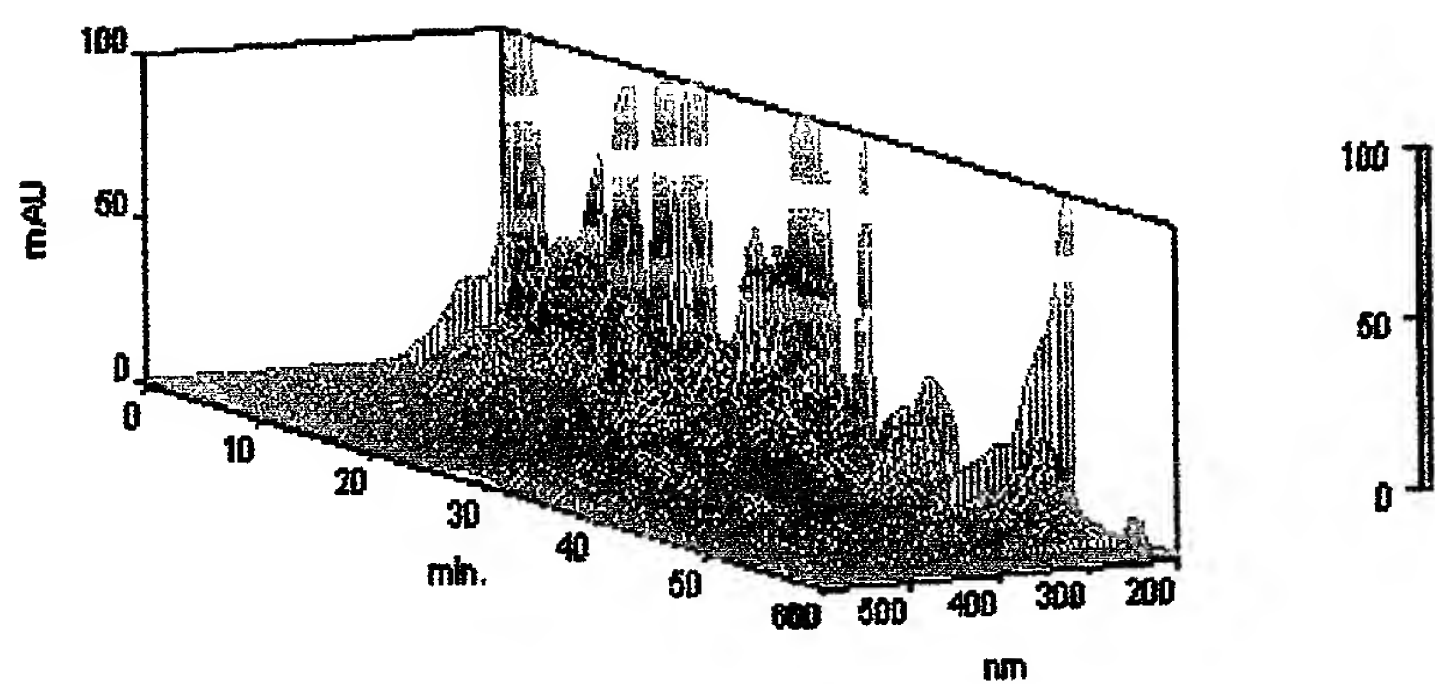


Figure 90

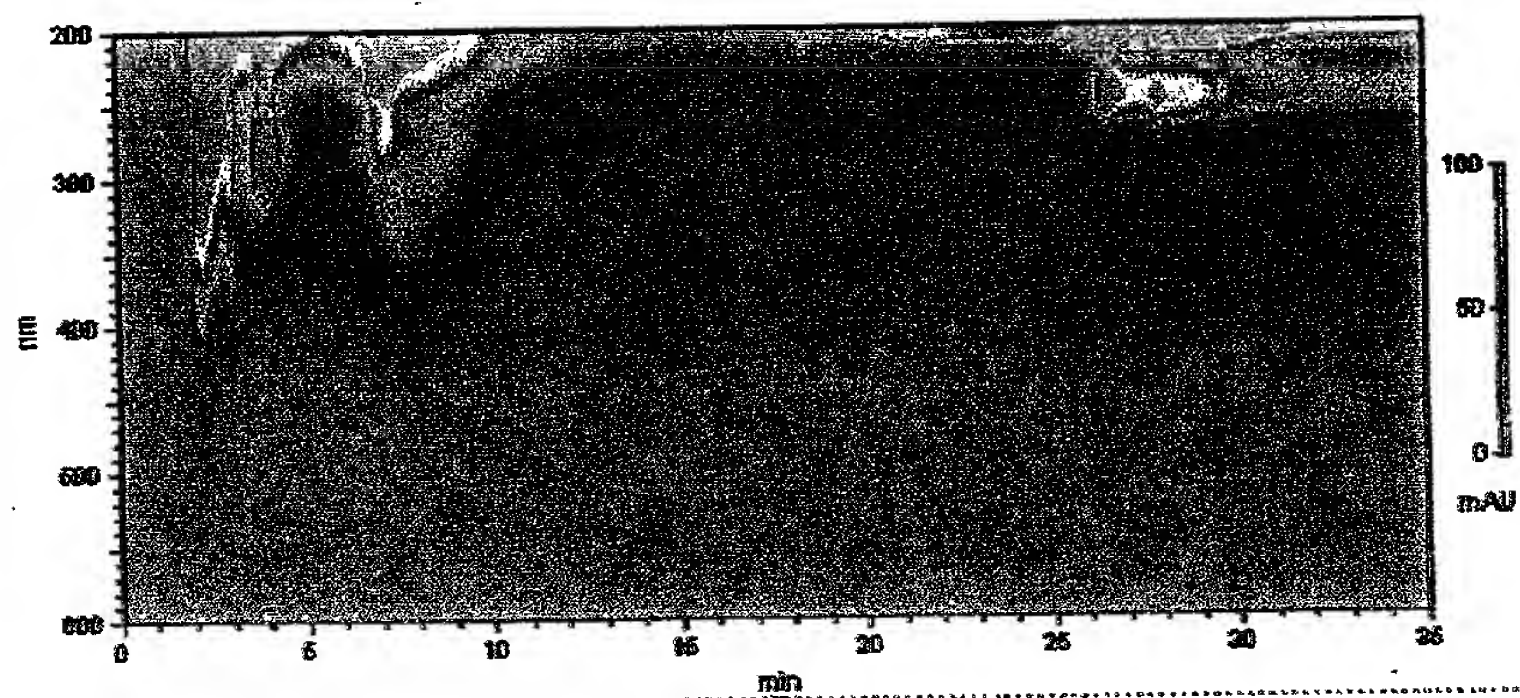
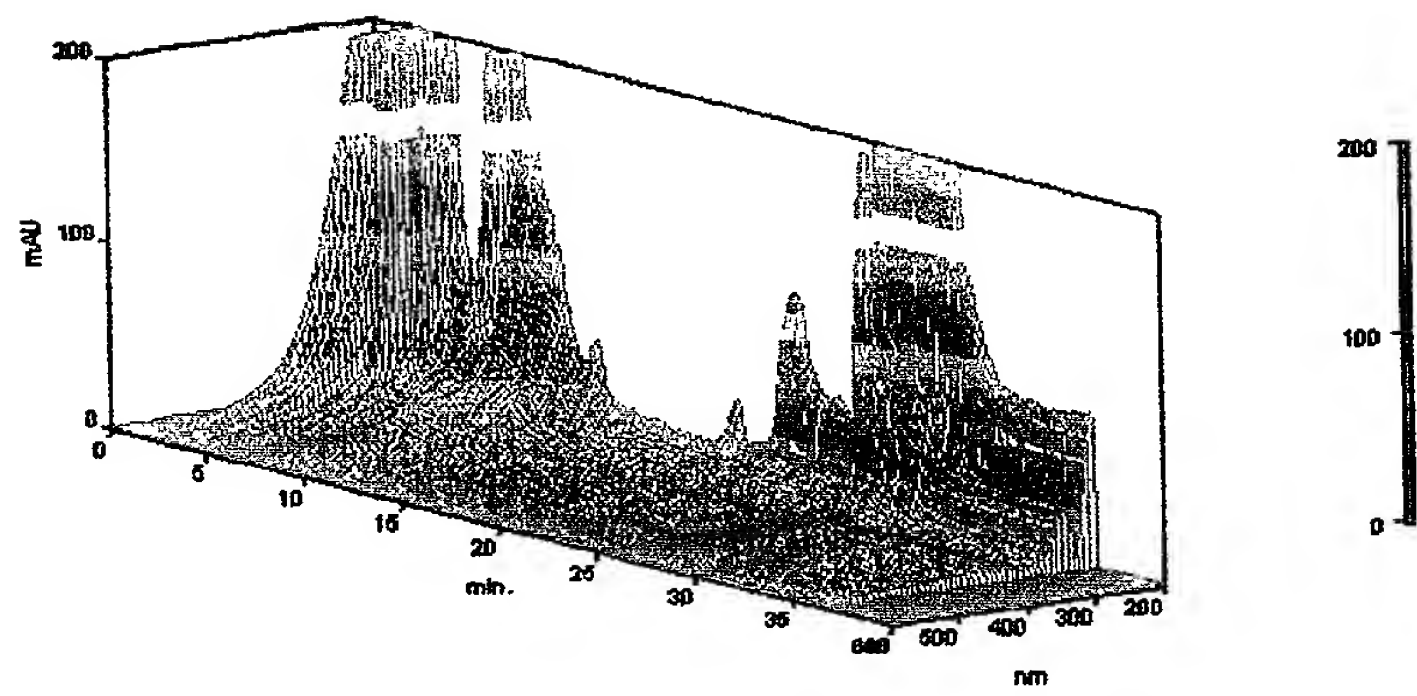


Figure 91

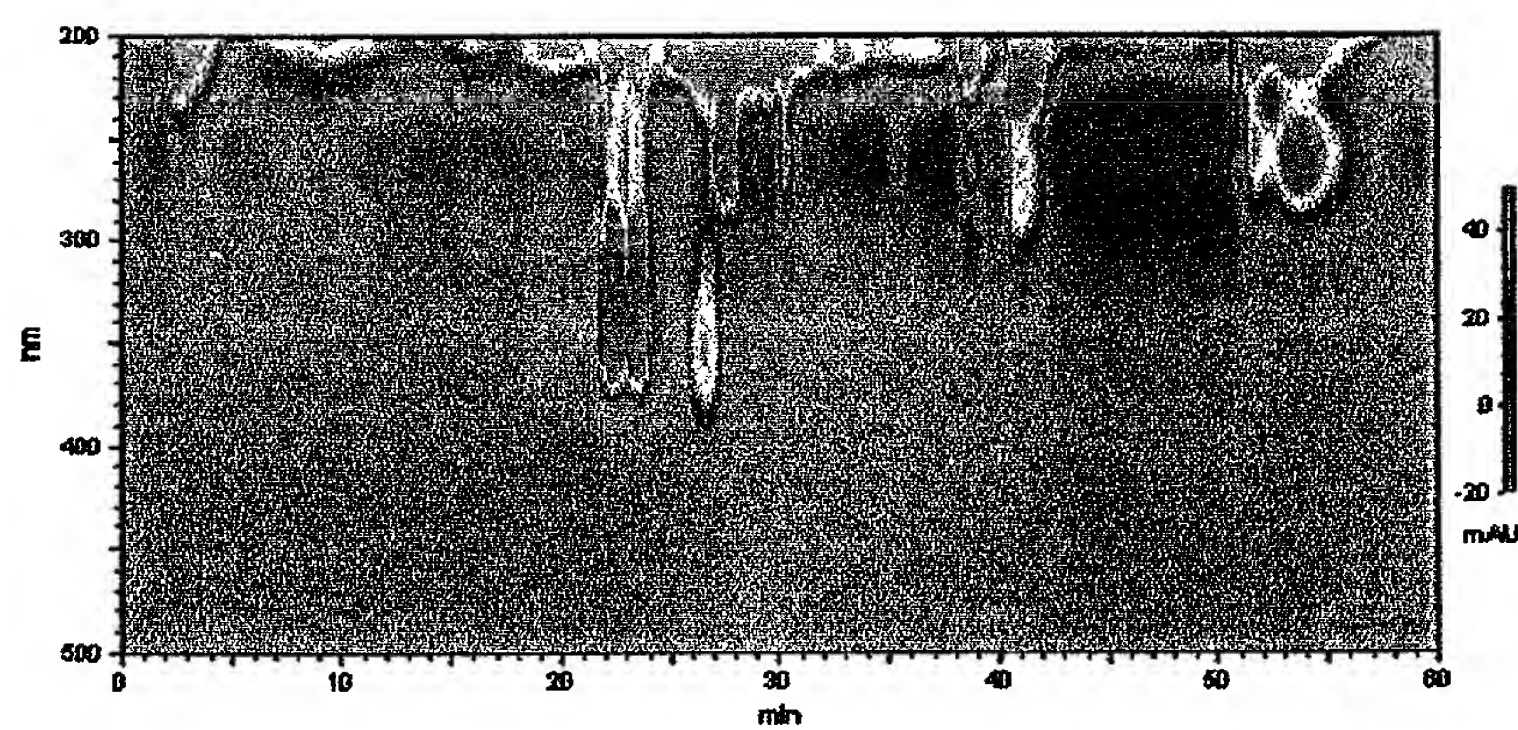
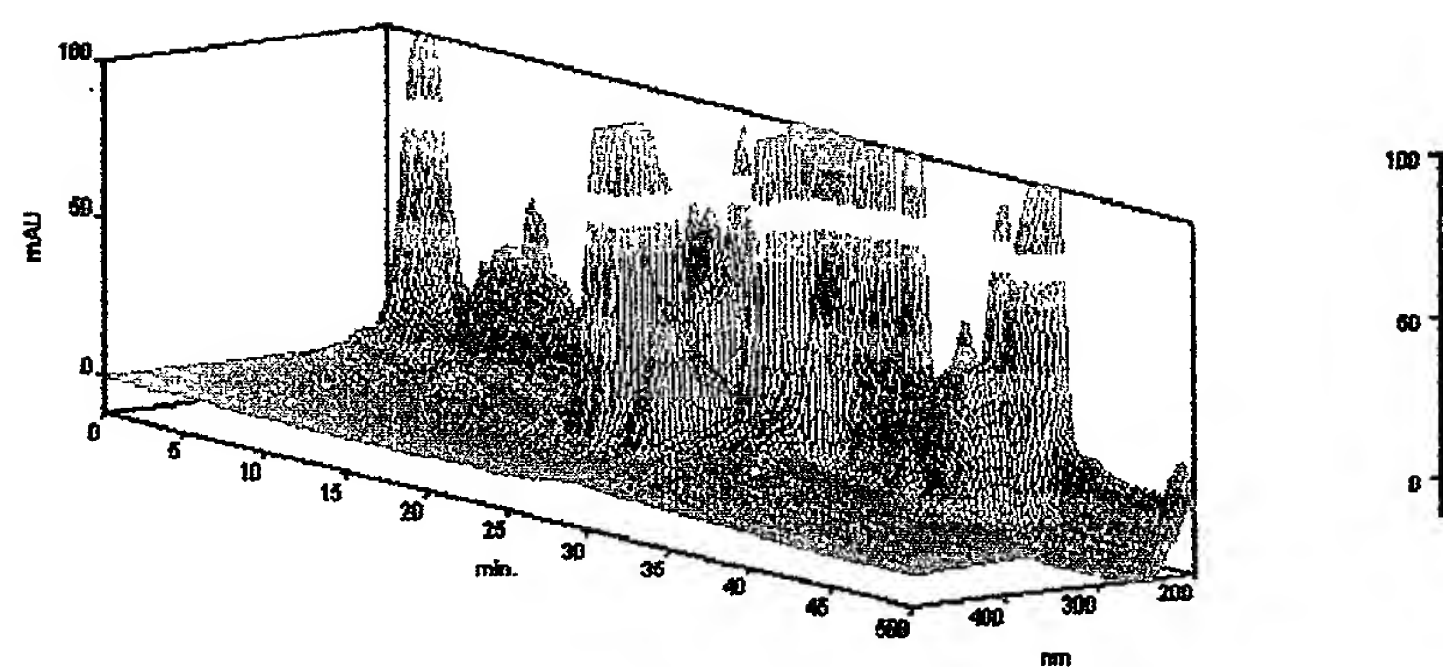
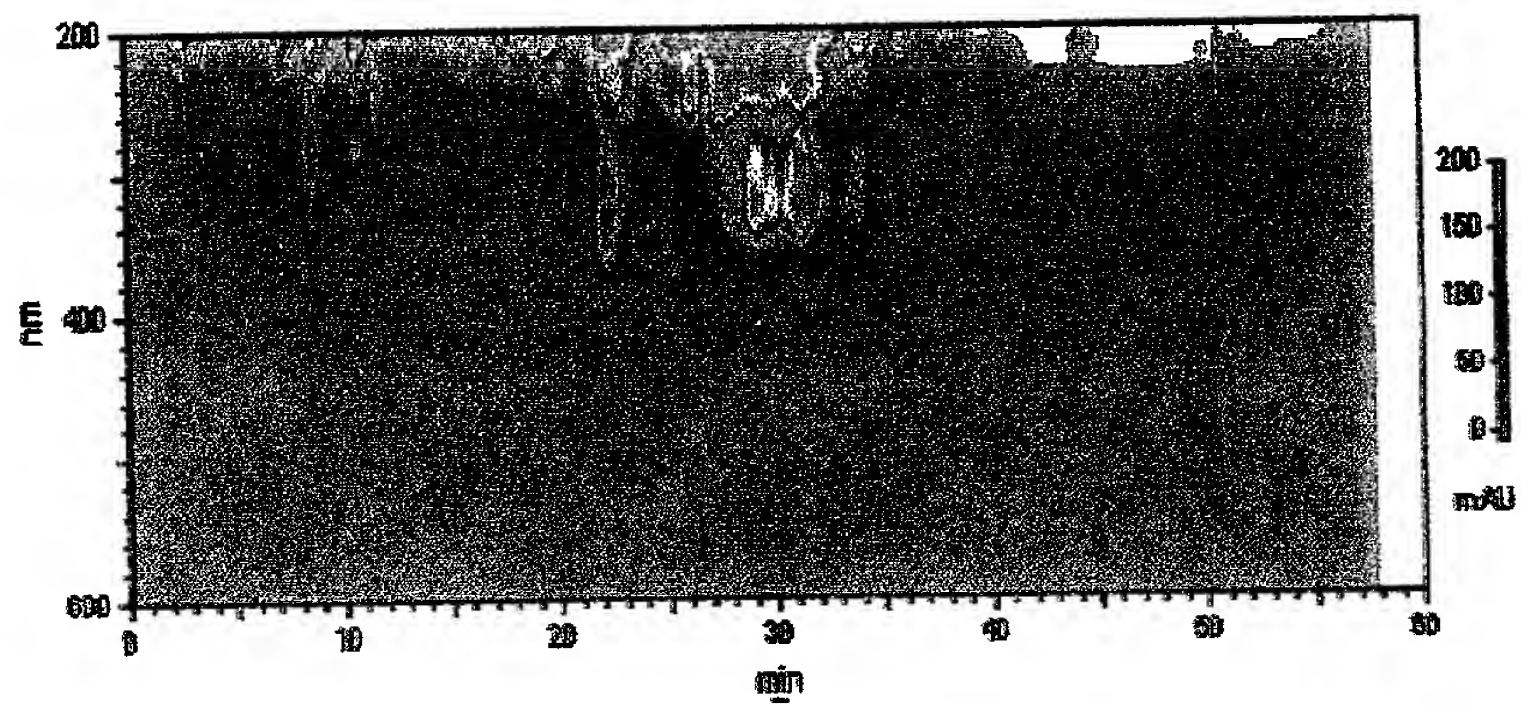
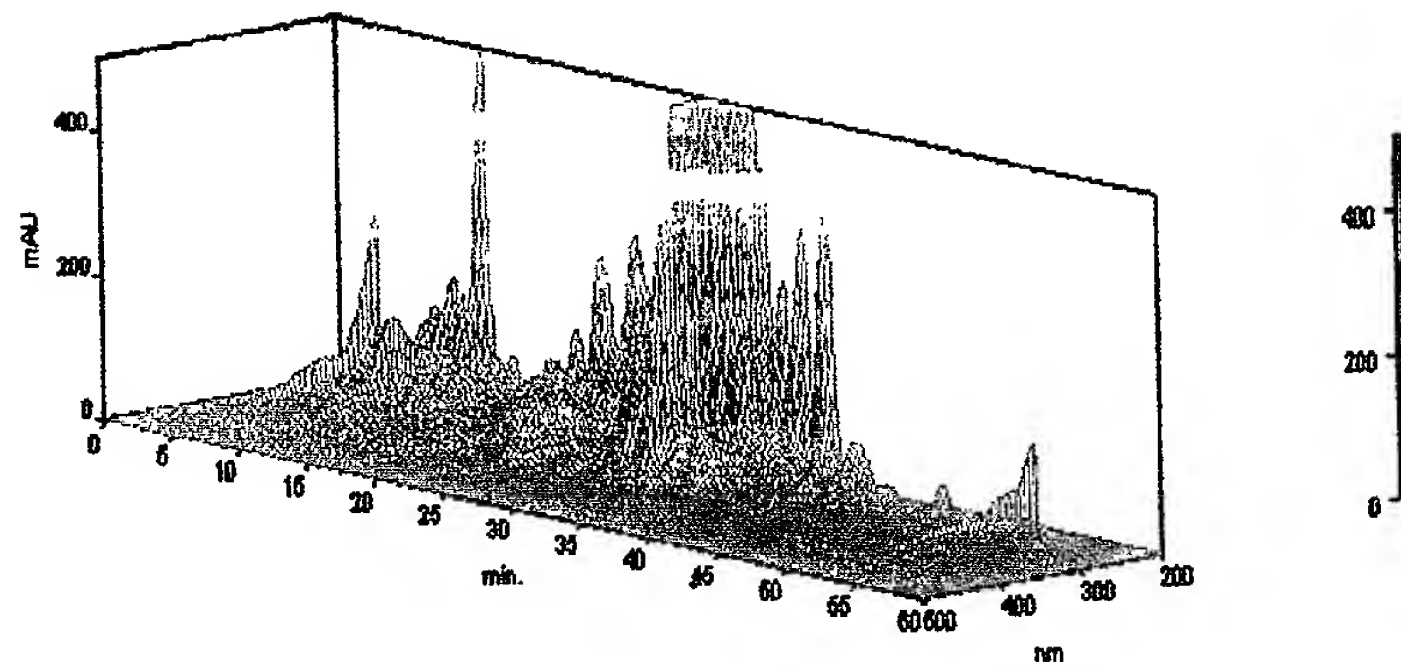
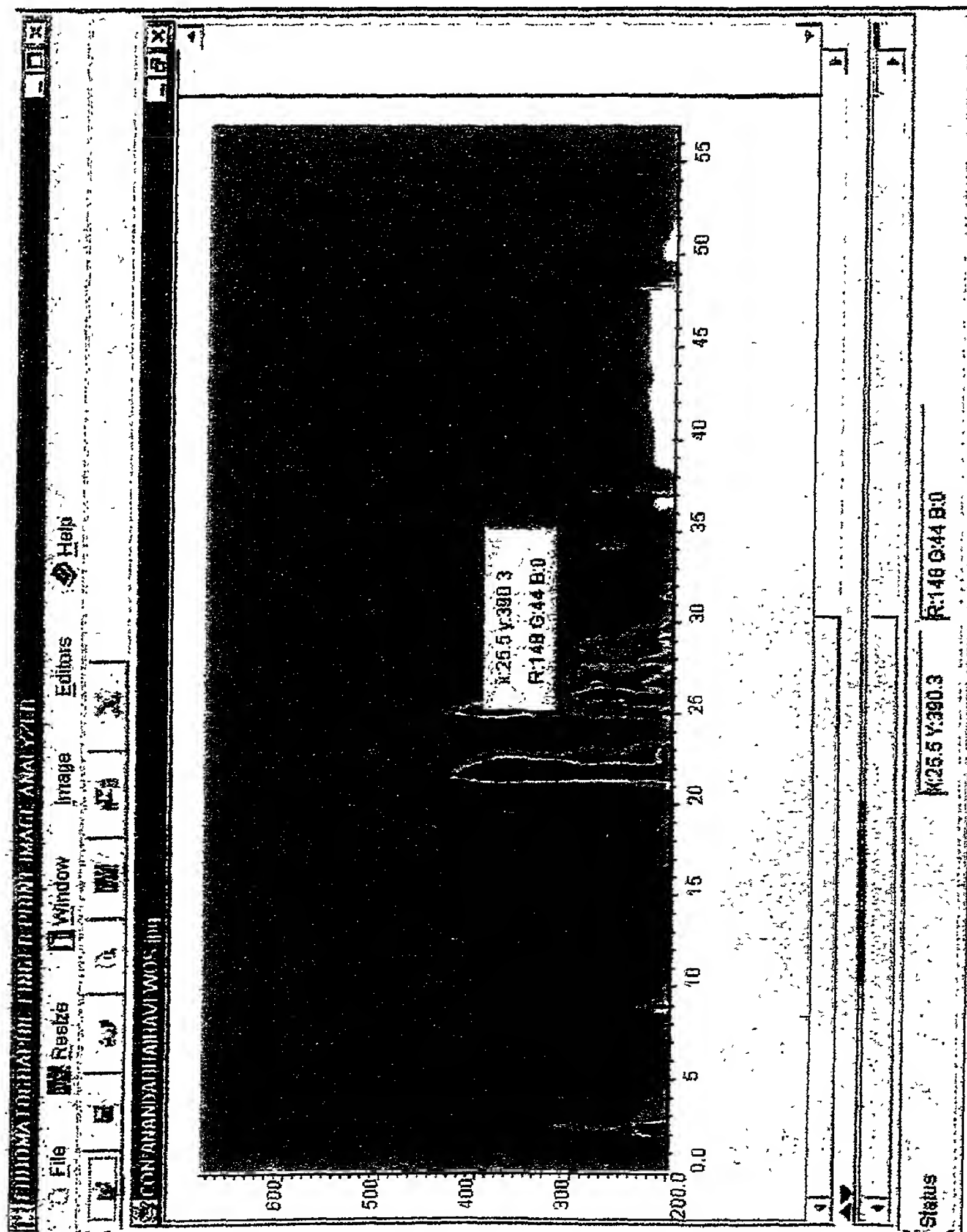




Figure 92



IMAGES WITH BAR CODE VALUES GIVEN BY THE SOFTWARE TO FEED  
FOR A BAR CODING SOFTWARE



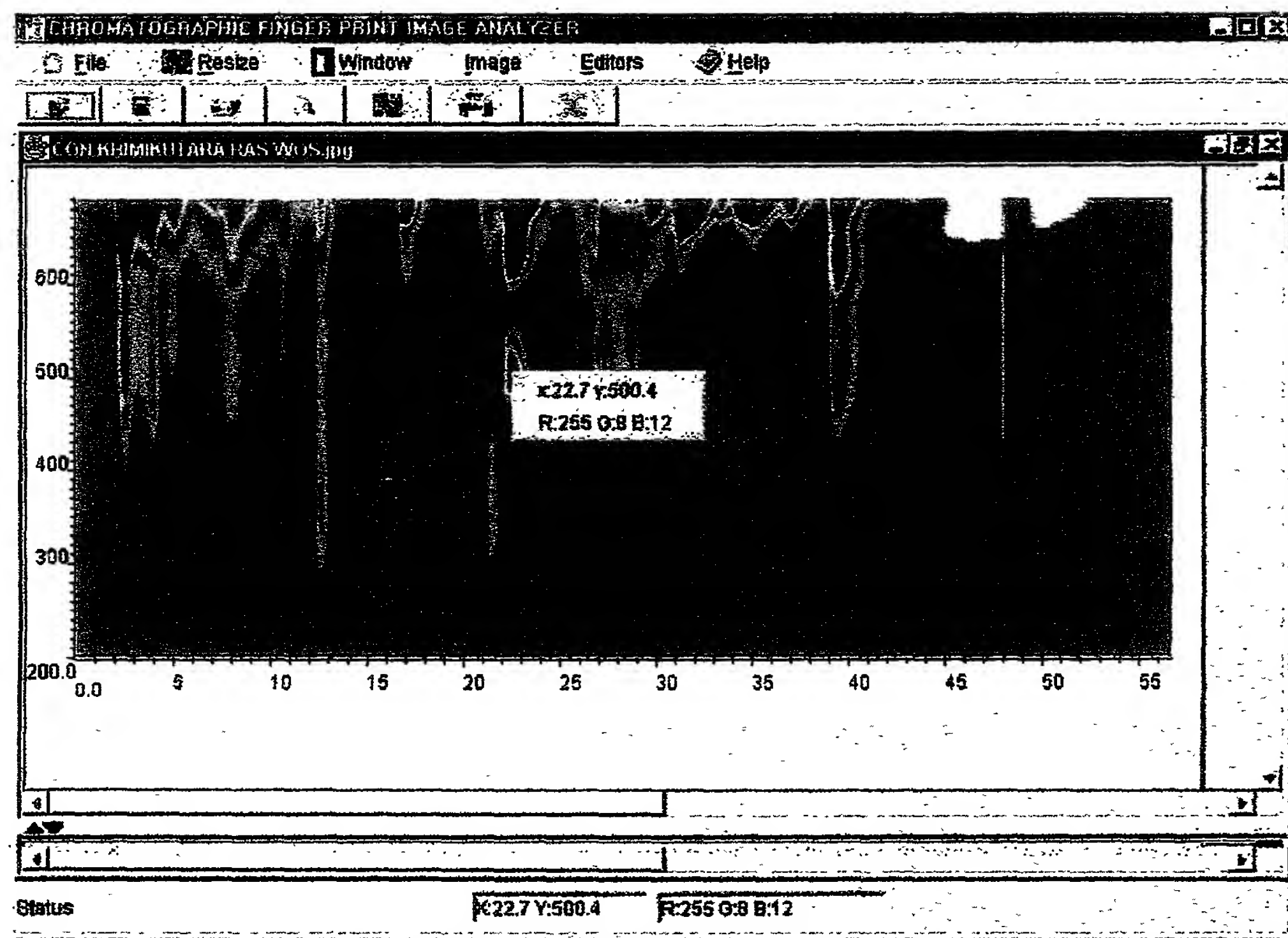
### Anandabhairavi Ras

Y right clicking the image software is able to show the coordinates on the box near the peak . The same is shown in down tool bar. These will be exported to barcoding software which generates a barcode for the said values.

Figure 93

Figure 94

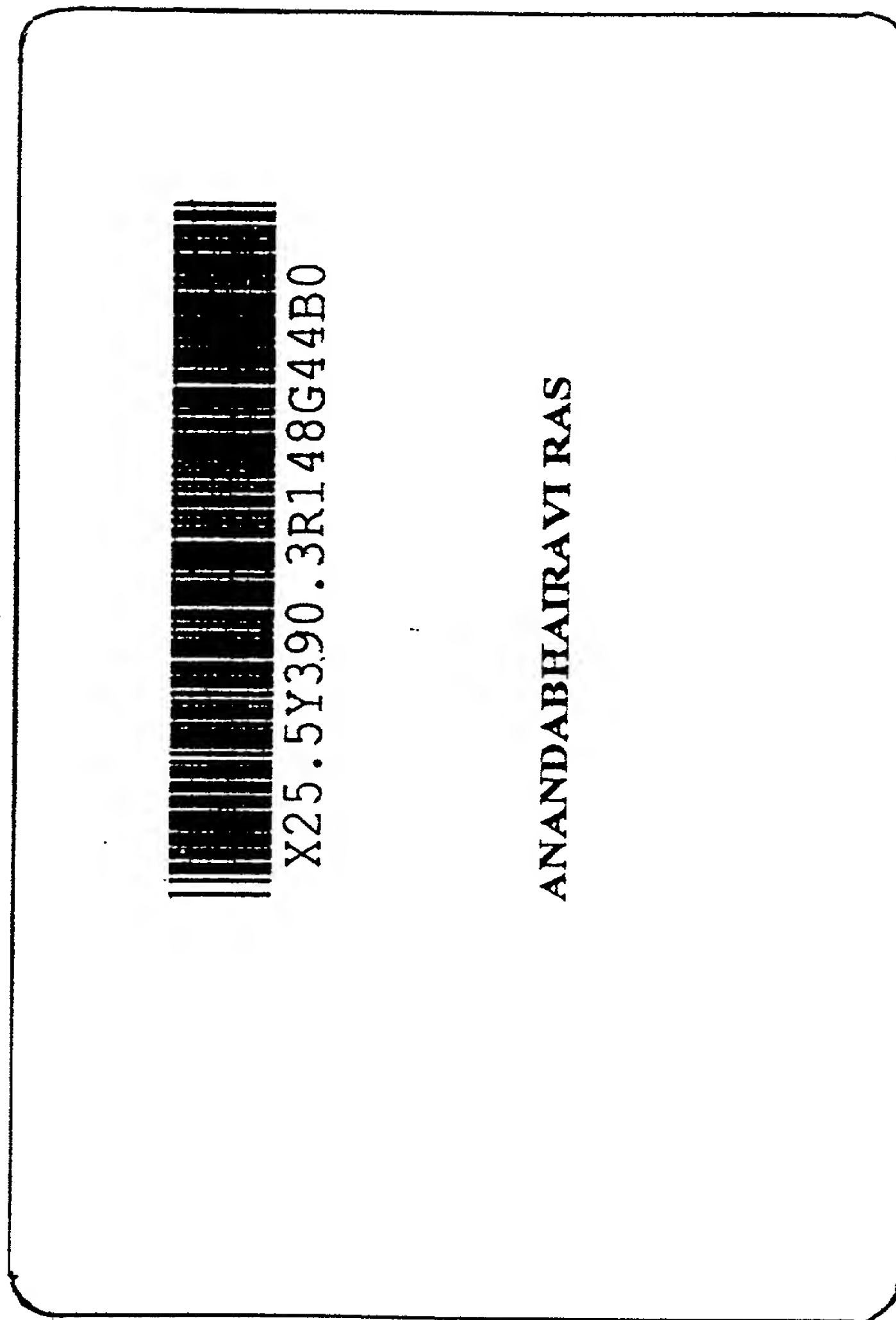
IMAGES WITH BAR CODE VALUES GIVEN BY THE  
SOFTWARE TO FEED FOR A BAR CODING SOFTWARE



Krimikutara Ras

Same mechanism as explained in Figure 93

COPIED FROM THE ORIGINAL



Barcode generated for specified coordinates

Figure 95

[illegible]

X22.7Y500.4R255G8B12

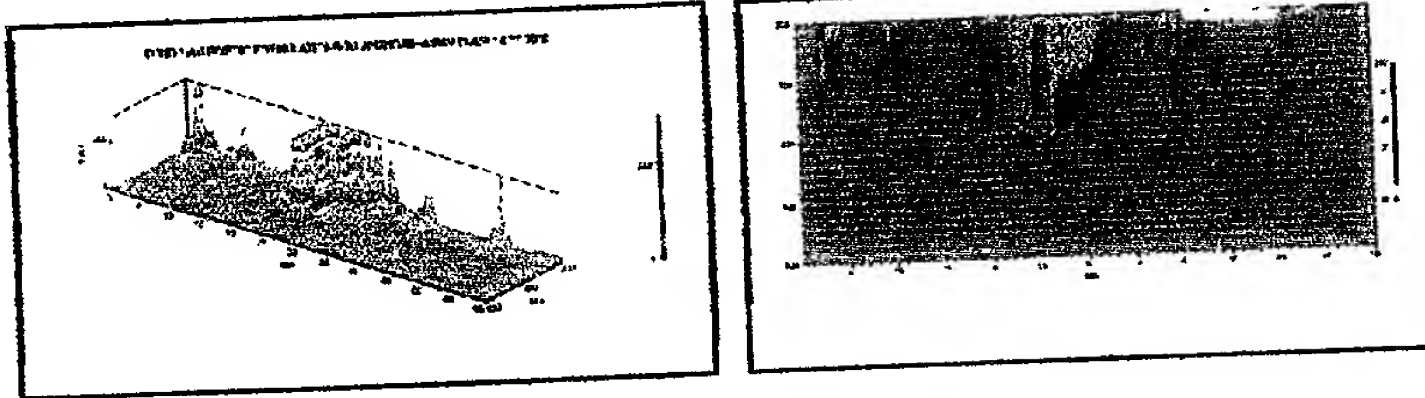
**KRIMIKUTARA RAS**

Figure 96



Figure 97

**Name of the product: Anandabhairavi Ras**  
**Owner: Industry**  
**Finger prints:**



Mfg. Date:  
Date of expiry:  
Individual constituents:  
Batch number:  
Lot number:  
M.R.P.:  
Dosage:  
Precautions:  
For Children:  
For pregnant woman:

Barcode:



X25.5Y390.3R148G44B0

ANANDABHAIRAVI

**Display Window For Anandabhairavi Ras**

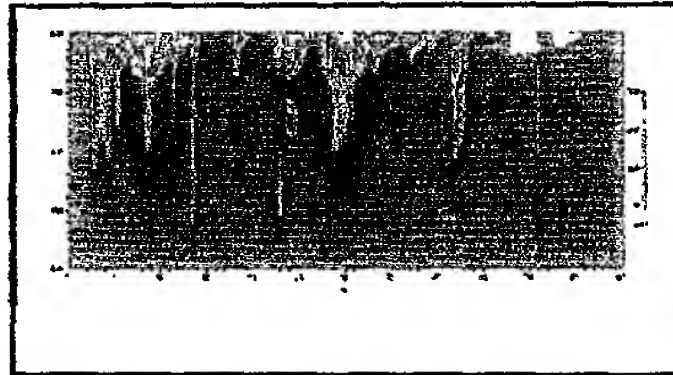
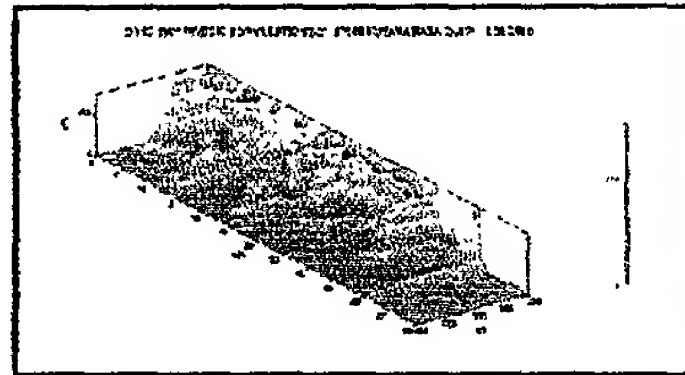
Display windows for all the medicines will be done. This becomes a database for ERP CRM application.

Figure 98

**Name of the product: Krimikutara Ras**

**Owner: Industry**

**Finger prints:**



**Mfg. Date:**

**Date of expiry:**

**Individual constituents:**

**Batch number:**

**Lot number:**

**M.R.P:**

**Dosage:**

**Precautions:**

**For Children:**

**For pregnant woman:**

**Barcode:**



X22.7Y500.4R255G8B12

KRIMIKUTARA RAS

**Display Window For Krimikutara Ras**

Figure 99

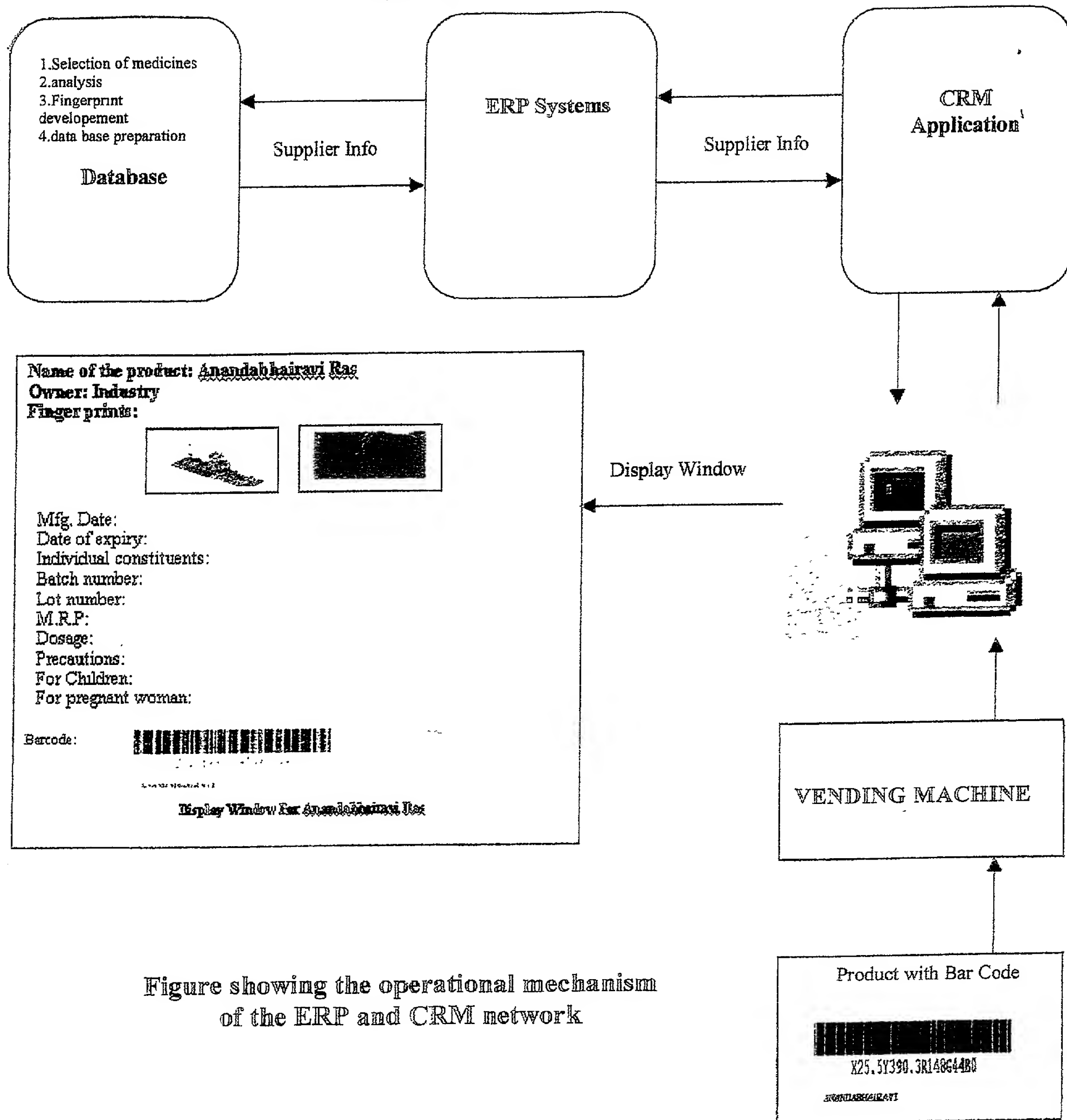
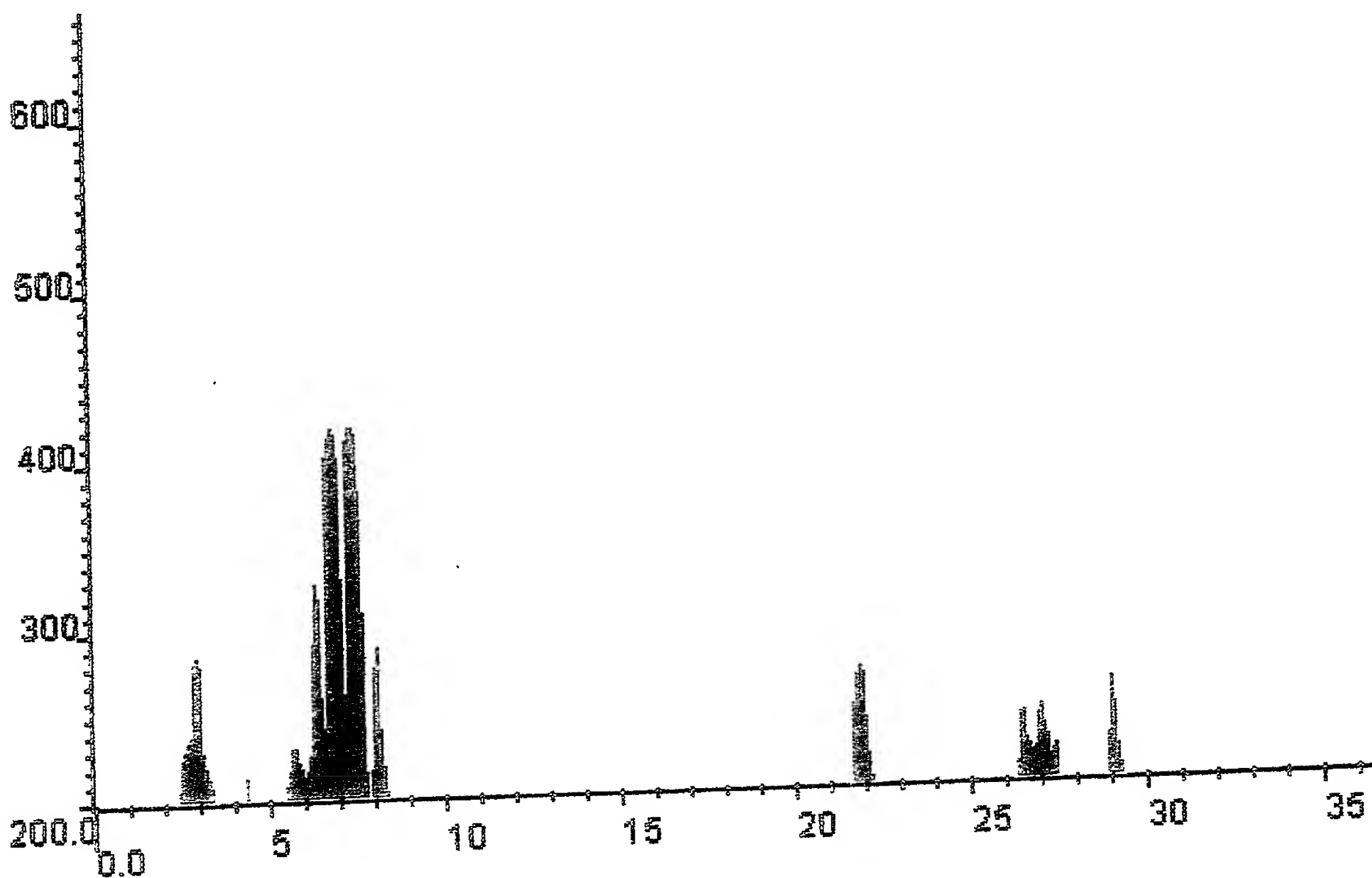
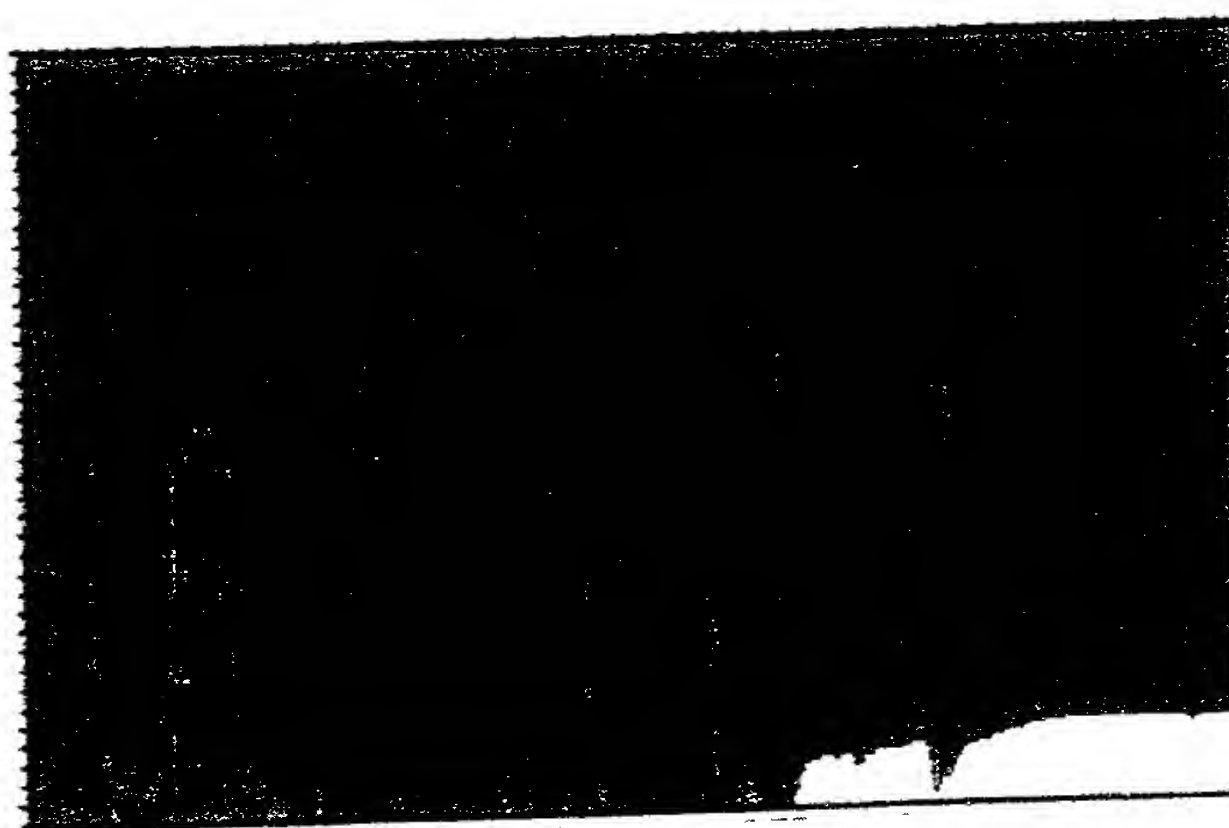


Figure showing the operational mechanism of the ERP and CRM network

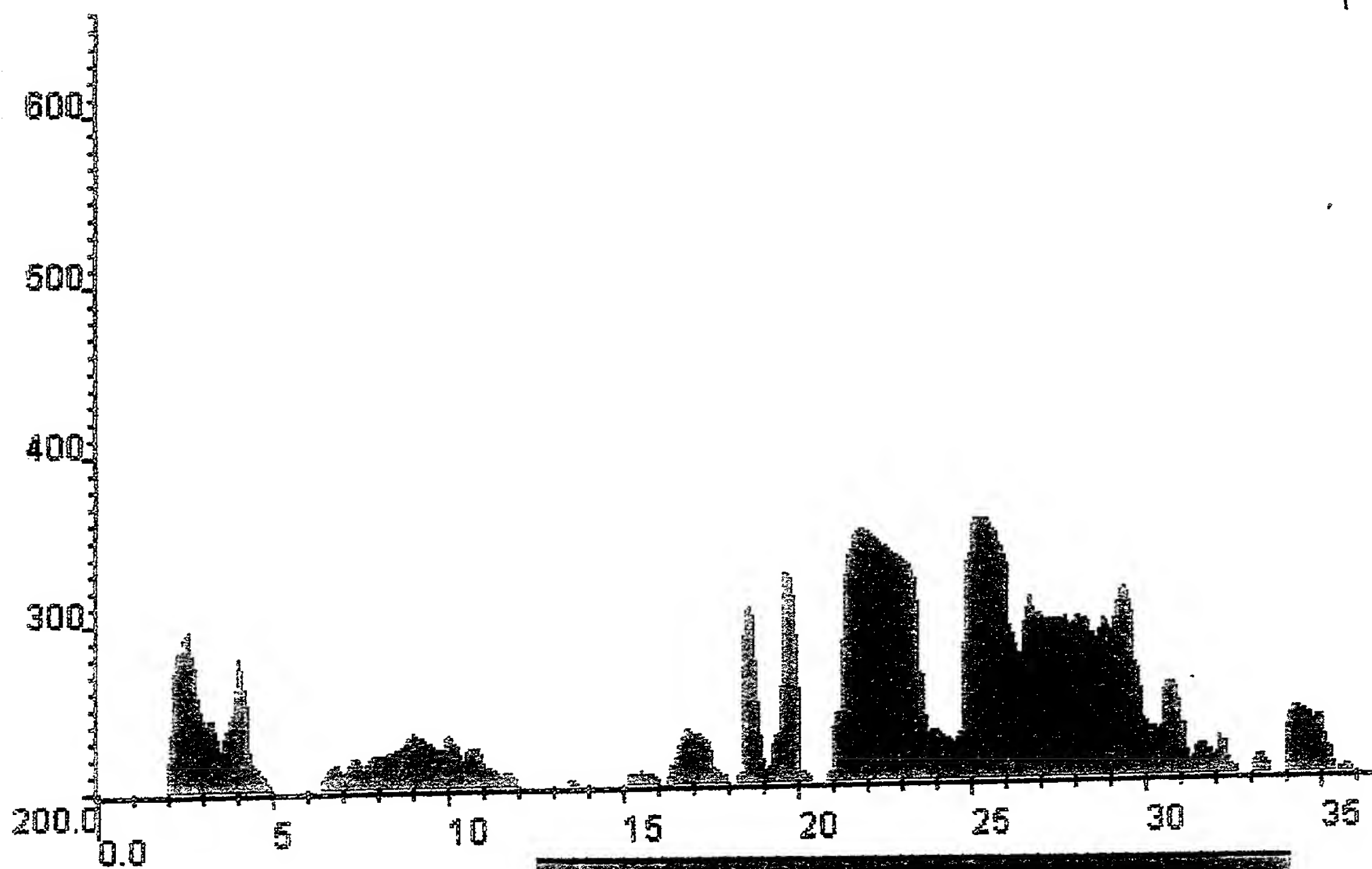


PeakNo	Area Of Pixels
1	271
2	8
3	1818
4	146
5	181
6	213
7	91

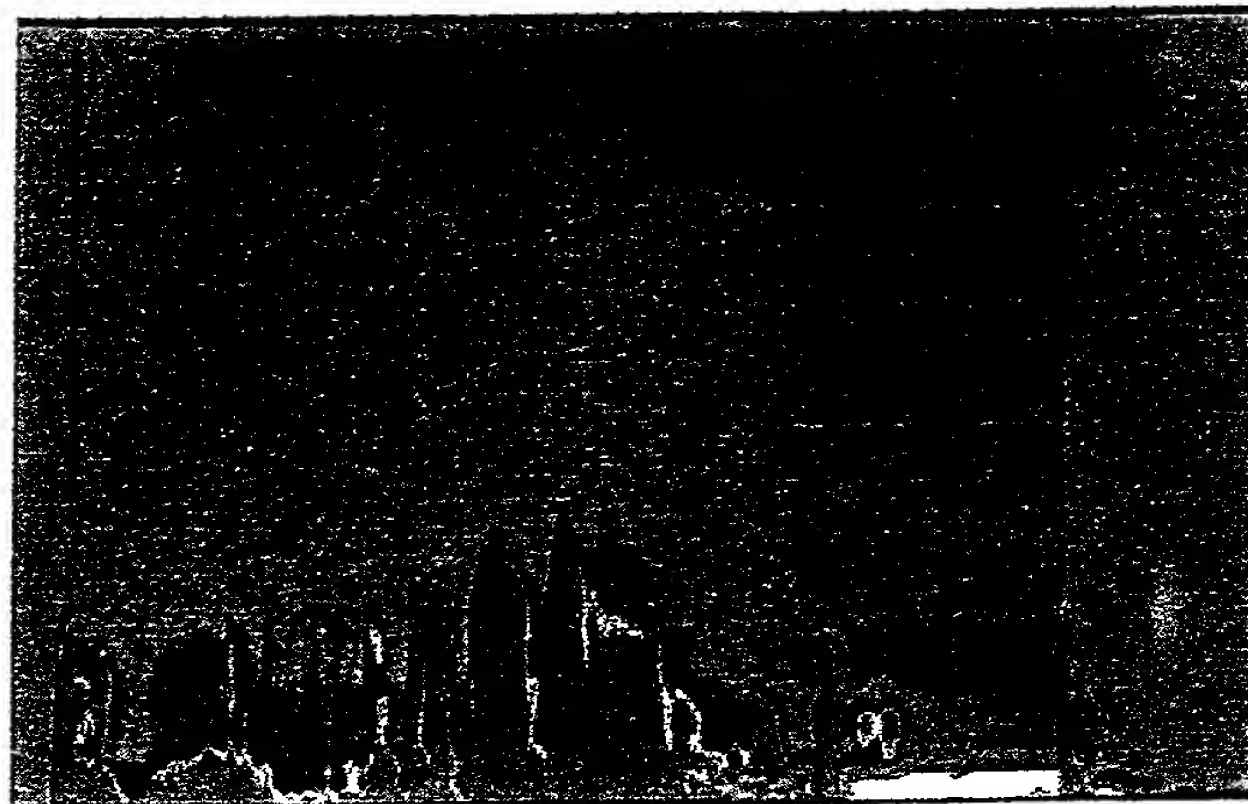


CHROMATOGRAM OF AZARDIRACTA INDICA  
(Tender leaves in February)

Figure 100



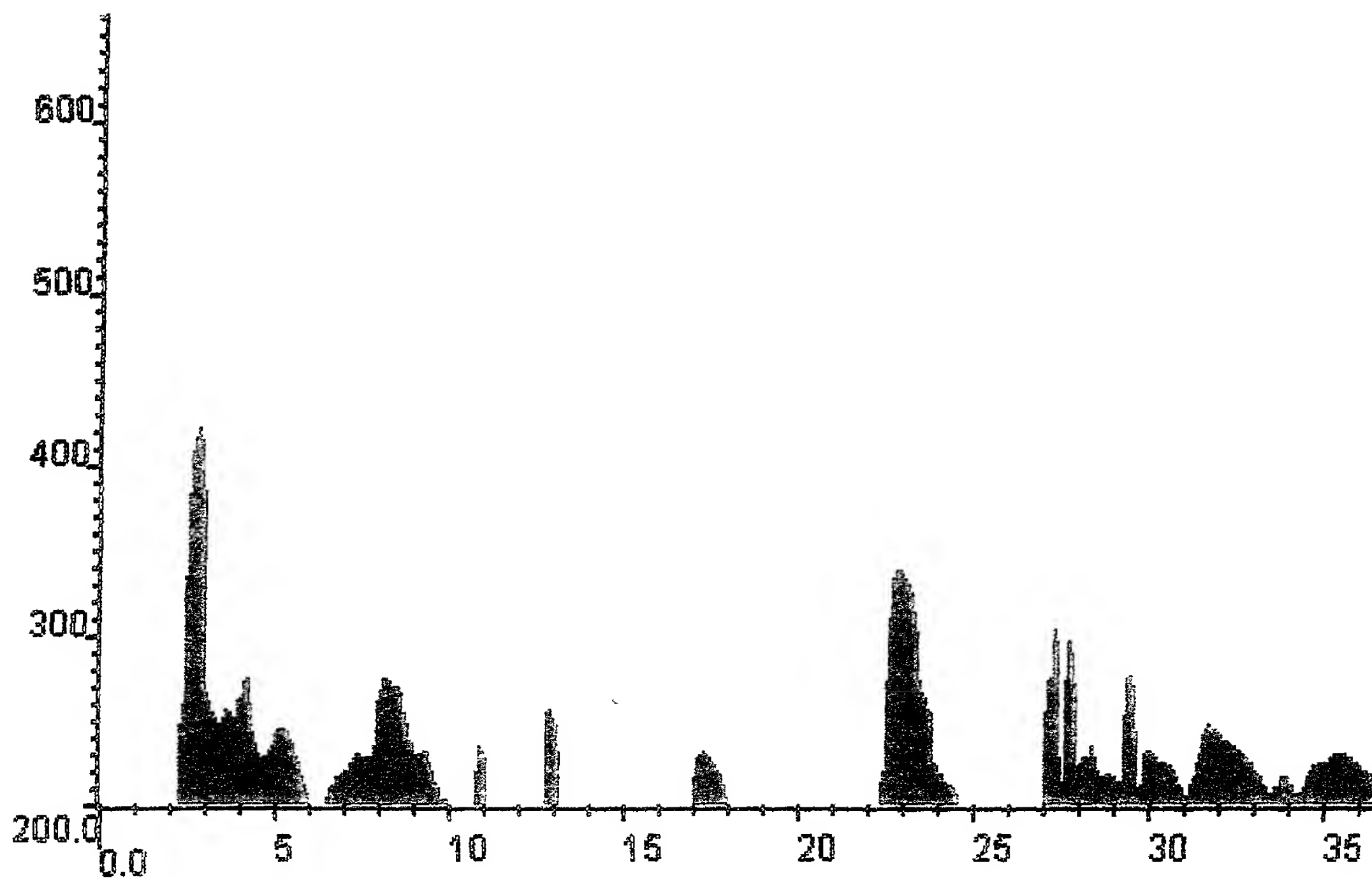
PeakNo	Area Of Pixels
1	1009
2	769
3	7
4	42
5	252
6	829
7	6984
8	35
9	322
10	12
11	405
12	9
13	59
14	106
15	8
16	31



PIE DIAGRAM OF ANANDABHAIRAVI RAS

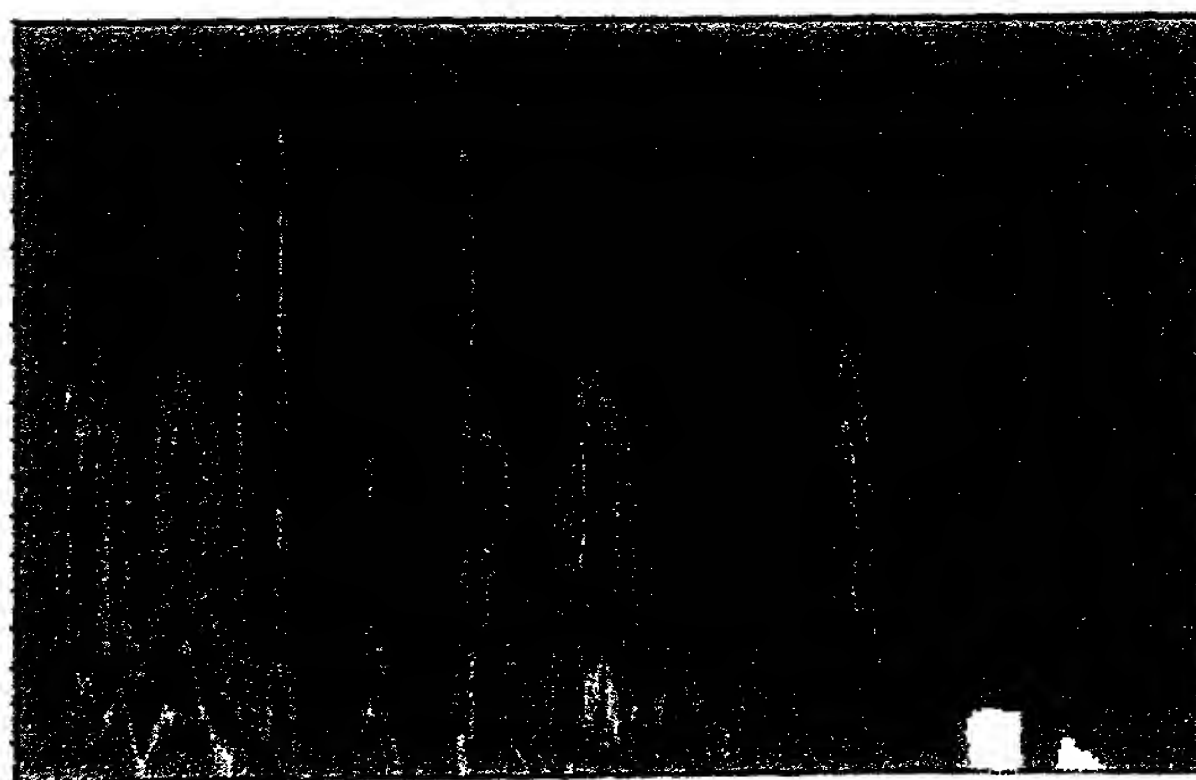
Figure 101





PeakNo Area Of Pixels

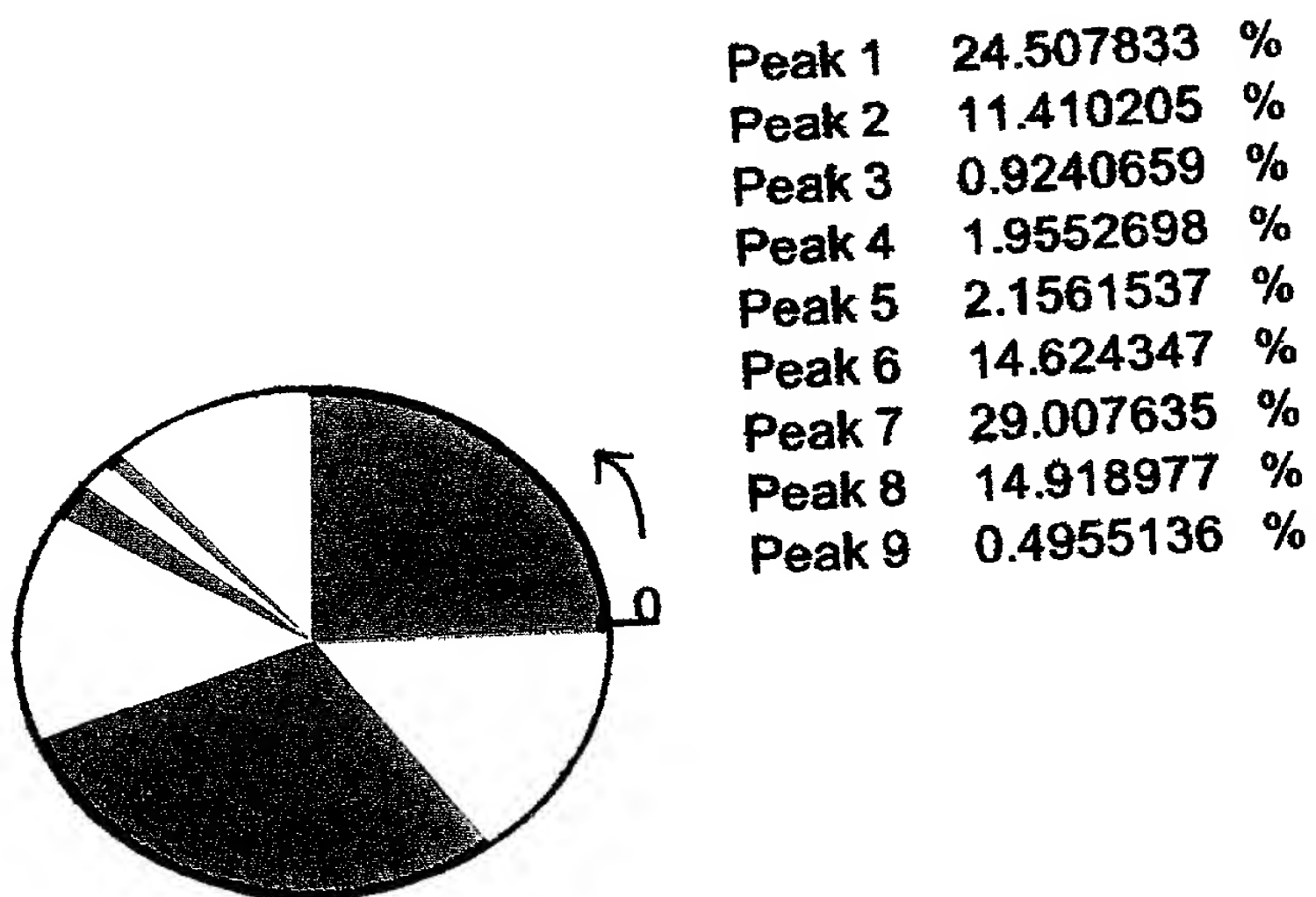
1	1830
2	852
3	69
4	146
5	161
6	1092
7	2166
8	1114
9	37



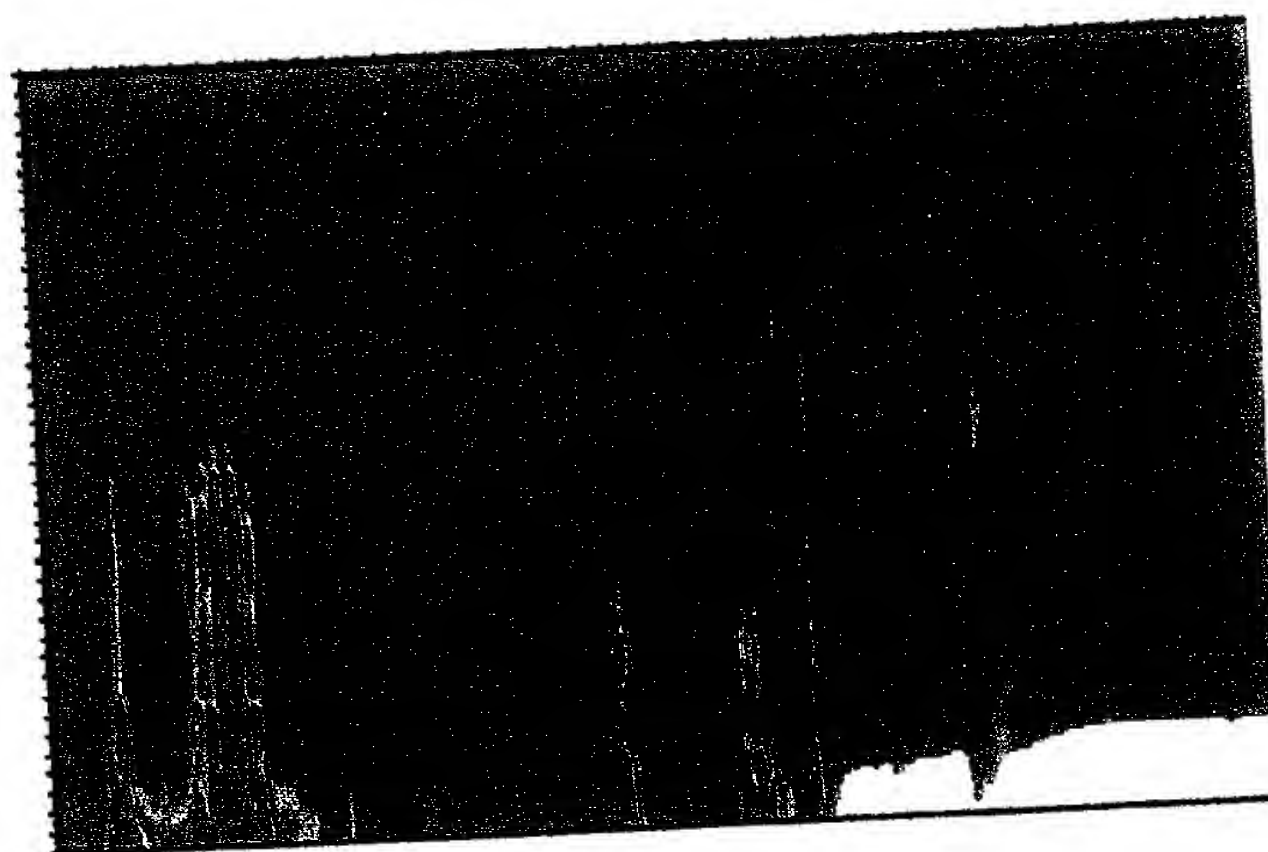
CHROMATOGRAM OF KRIMIKUTARA RAS

Figure 102

Figure 103

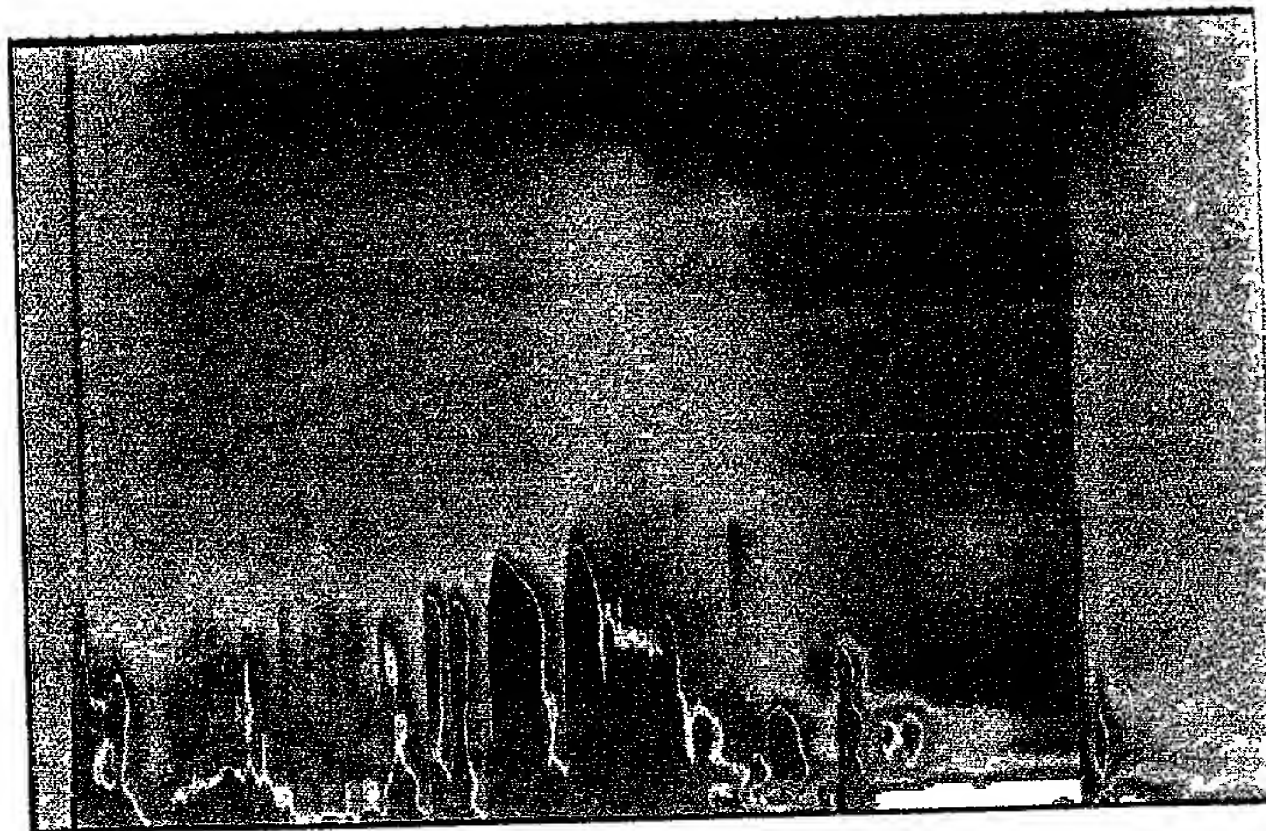
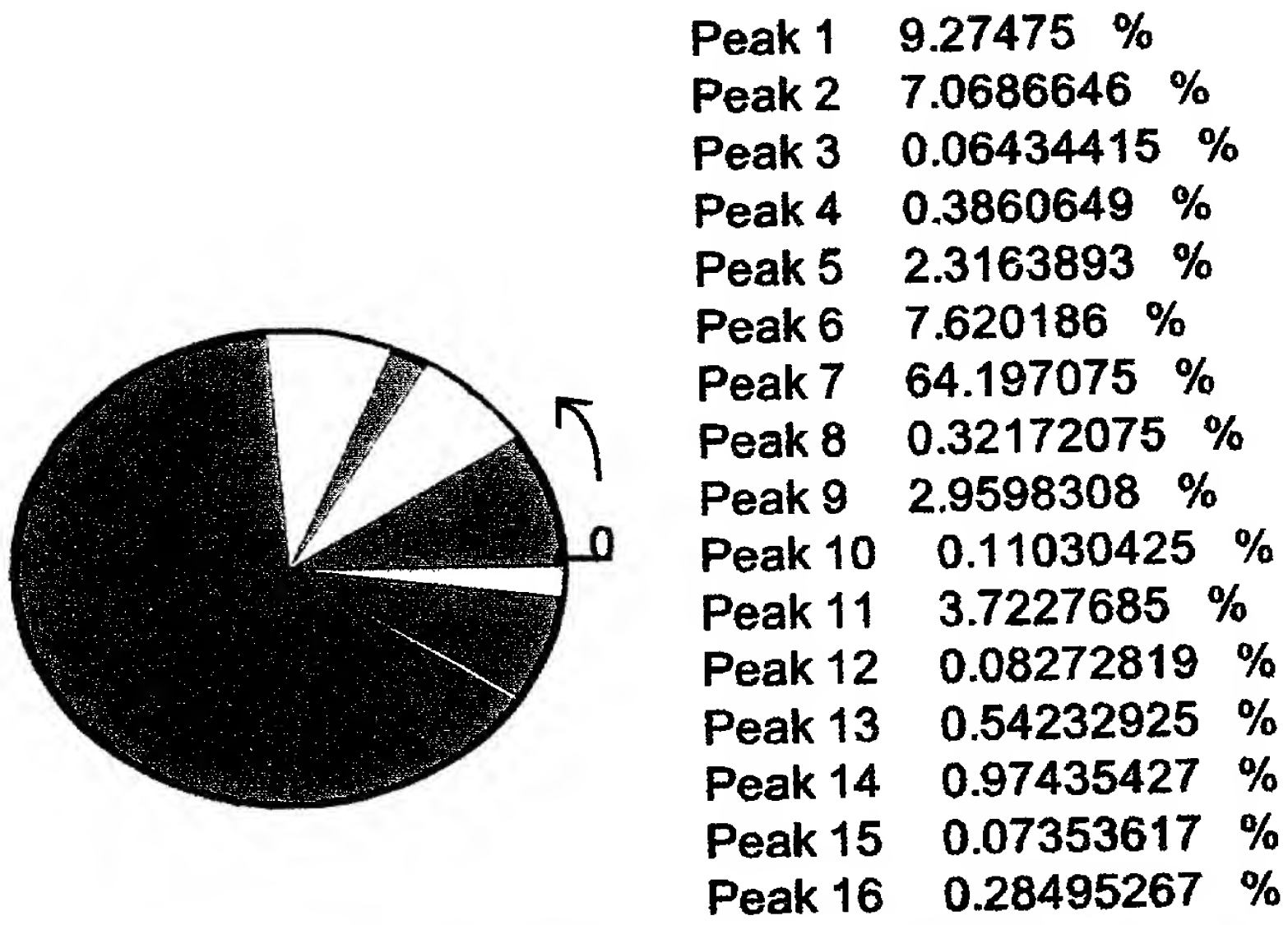


Percentage of pixels represents the constituents.



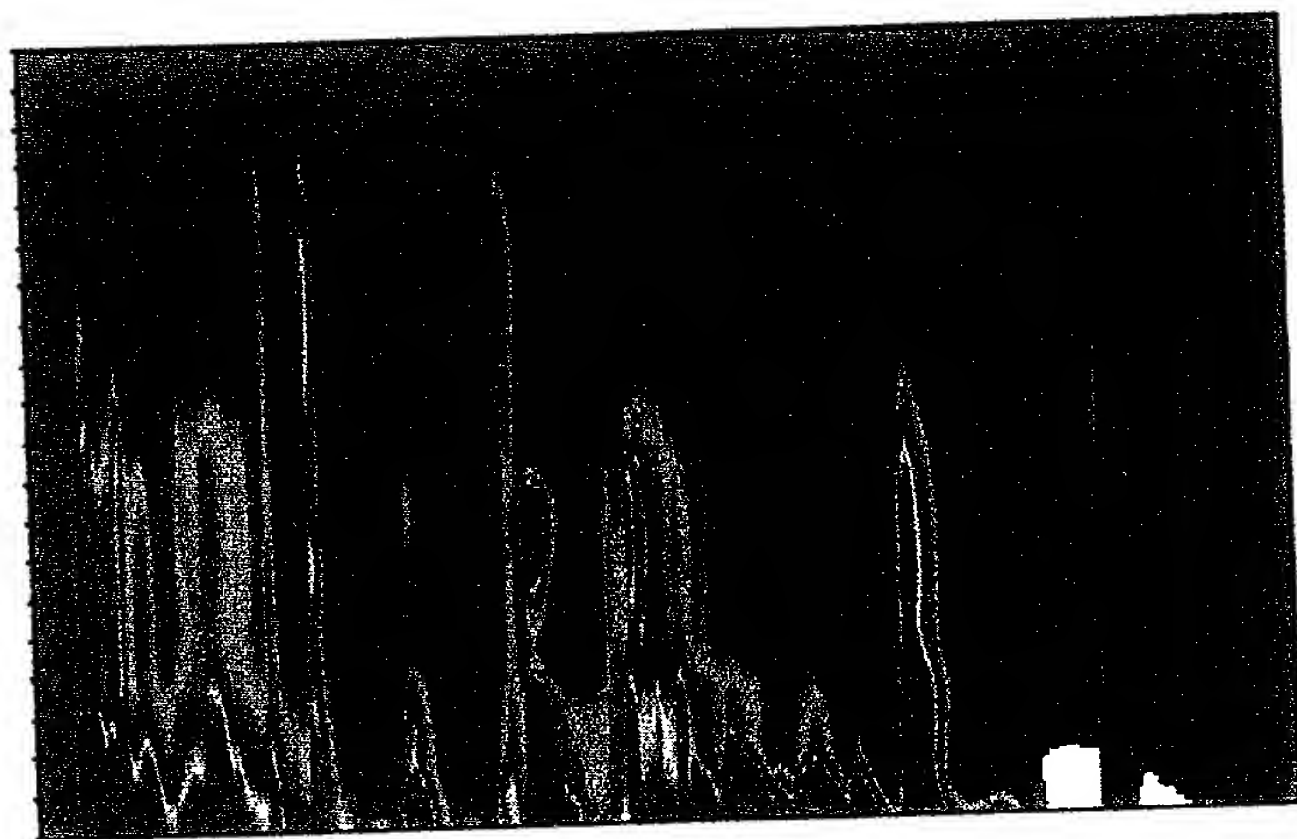
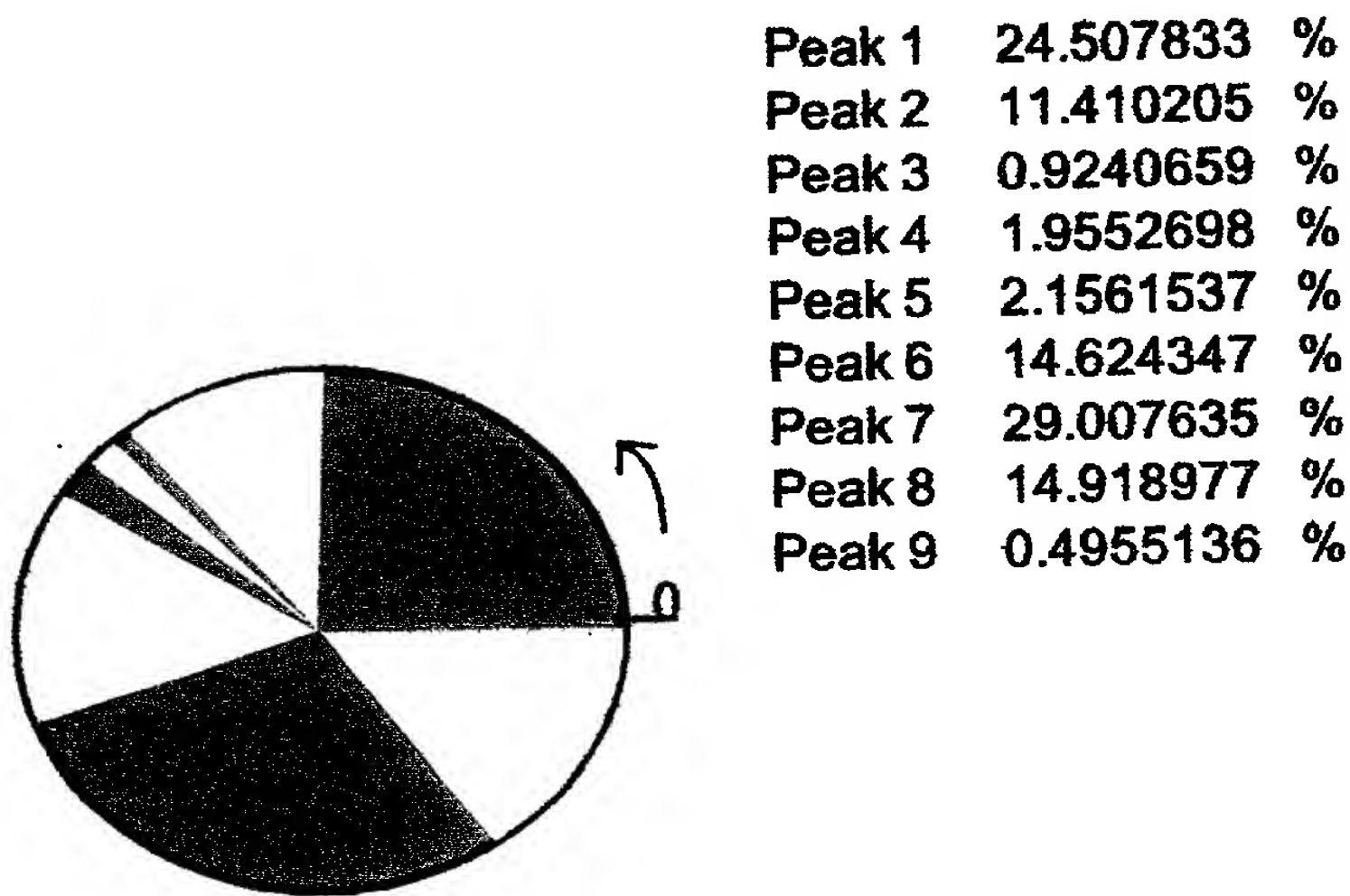
**PIE DIAGRAM OF AZARDIRACTA INDICA**  
(Tender leaves in February)

Figure 104



PIE DIAGRAM OF ANANDABHAIRAVI RAS

Figure 105

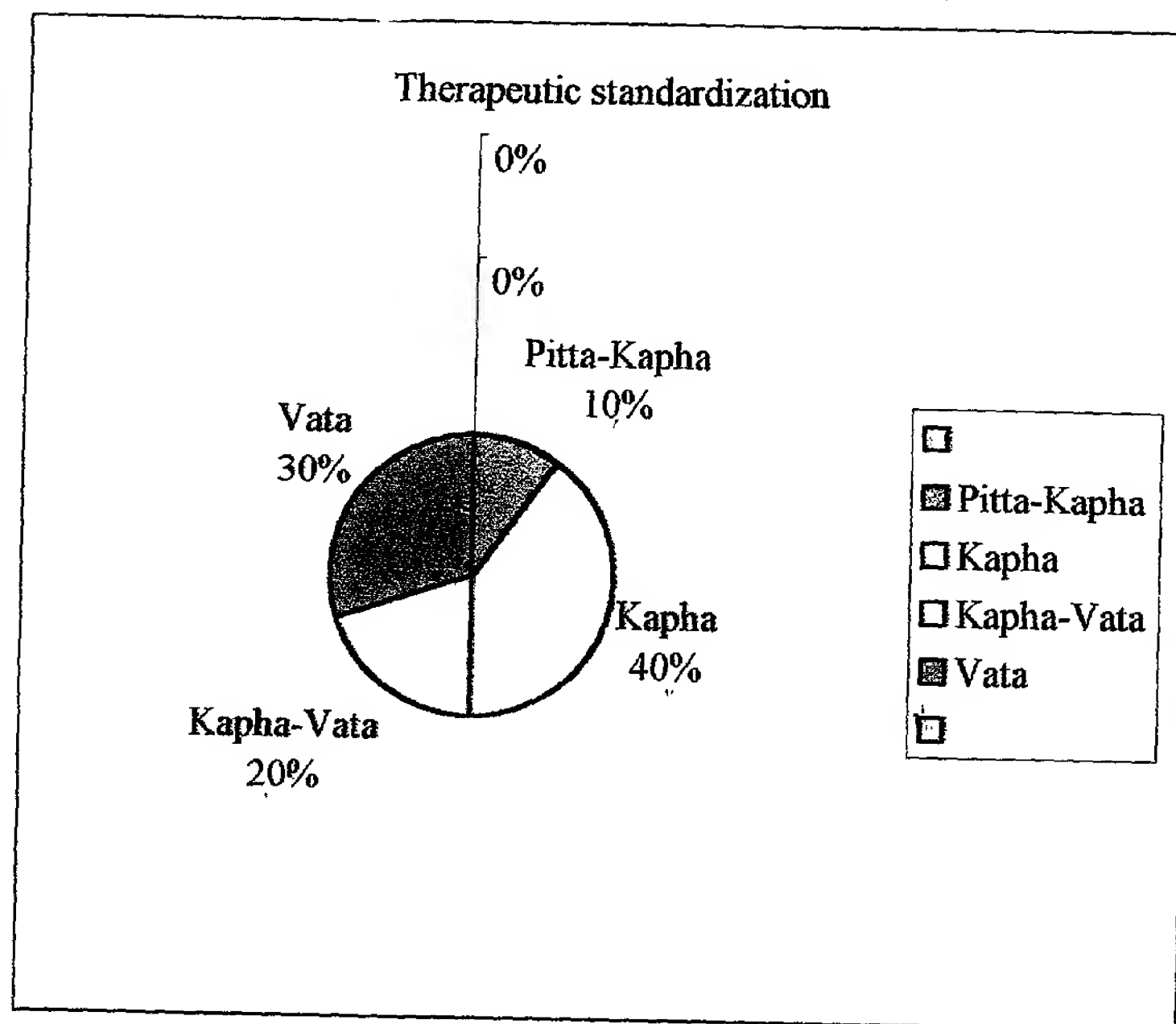


PIE DIAGRAM OF KRIMIKUTARA RAS

**Figure 106**

Pixel values or percentage values from graphs.

Pitta-Kaph. 10  
Kapha 40  
Kapha-Vat. 20  
Vata 30



This gives the efficacy of the medicine due to the constituents present in various zones of the fingerprint.

The values of pixels were taken generally and are not for a chromatogram. This figure only shows only how it appears.



Pitta	23
Pitta-Kapha	11
Kapha	11
Kapha-Vata	11
Vata	34
Vata-Pitta	11

Figure 107

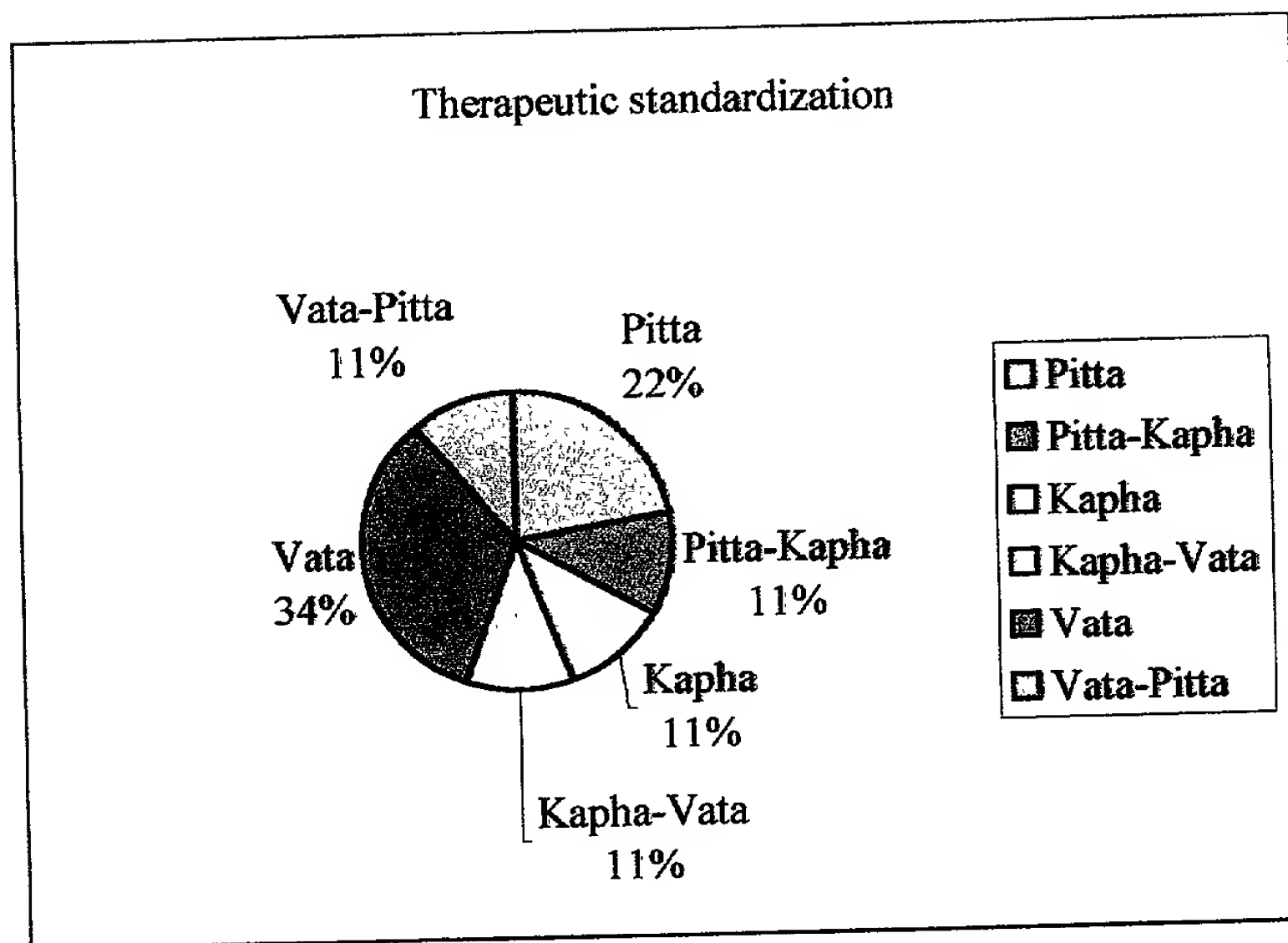
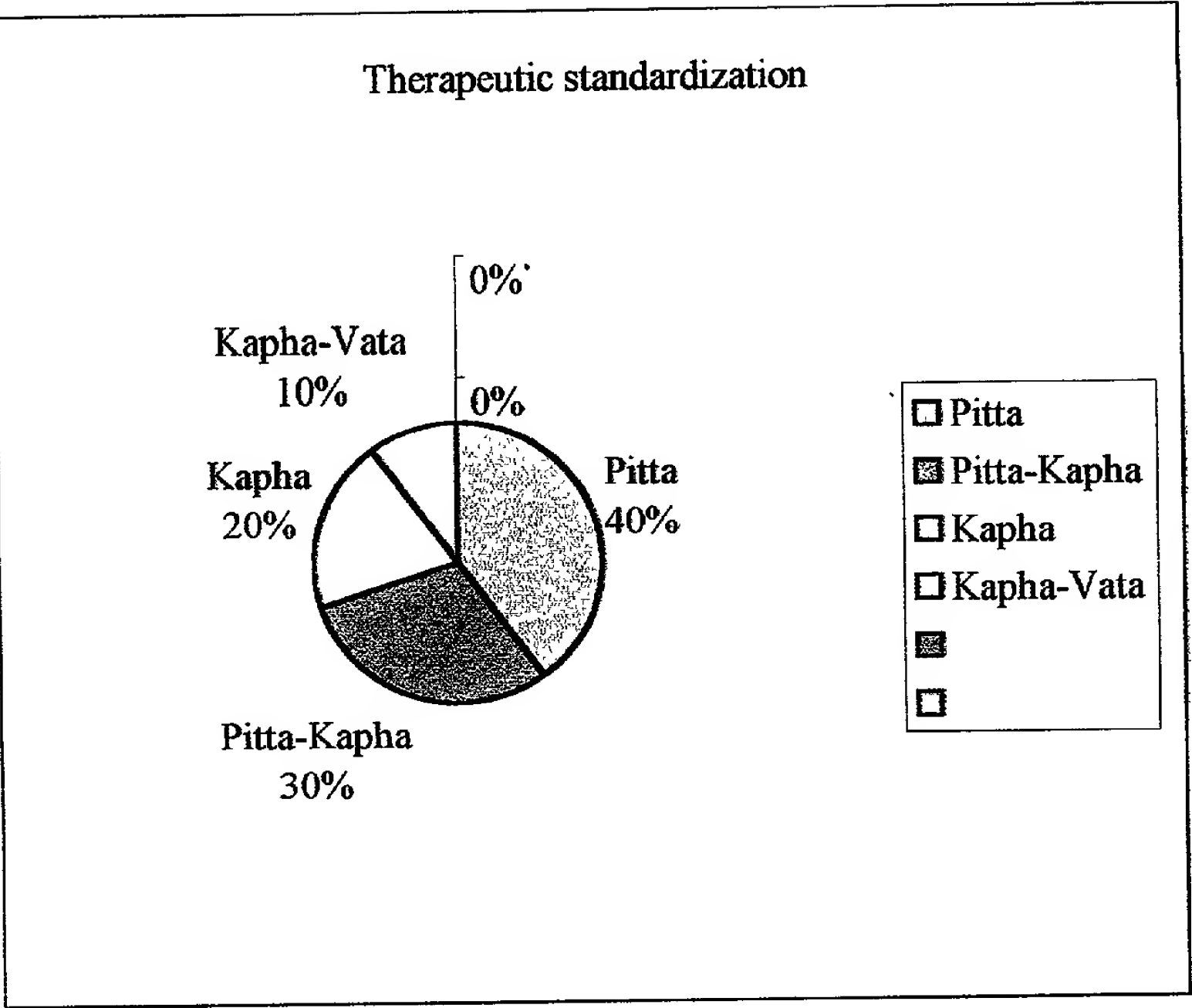
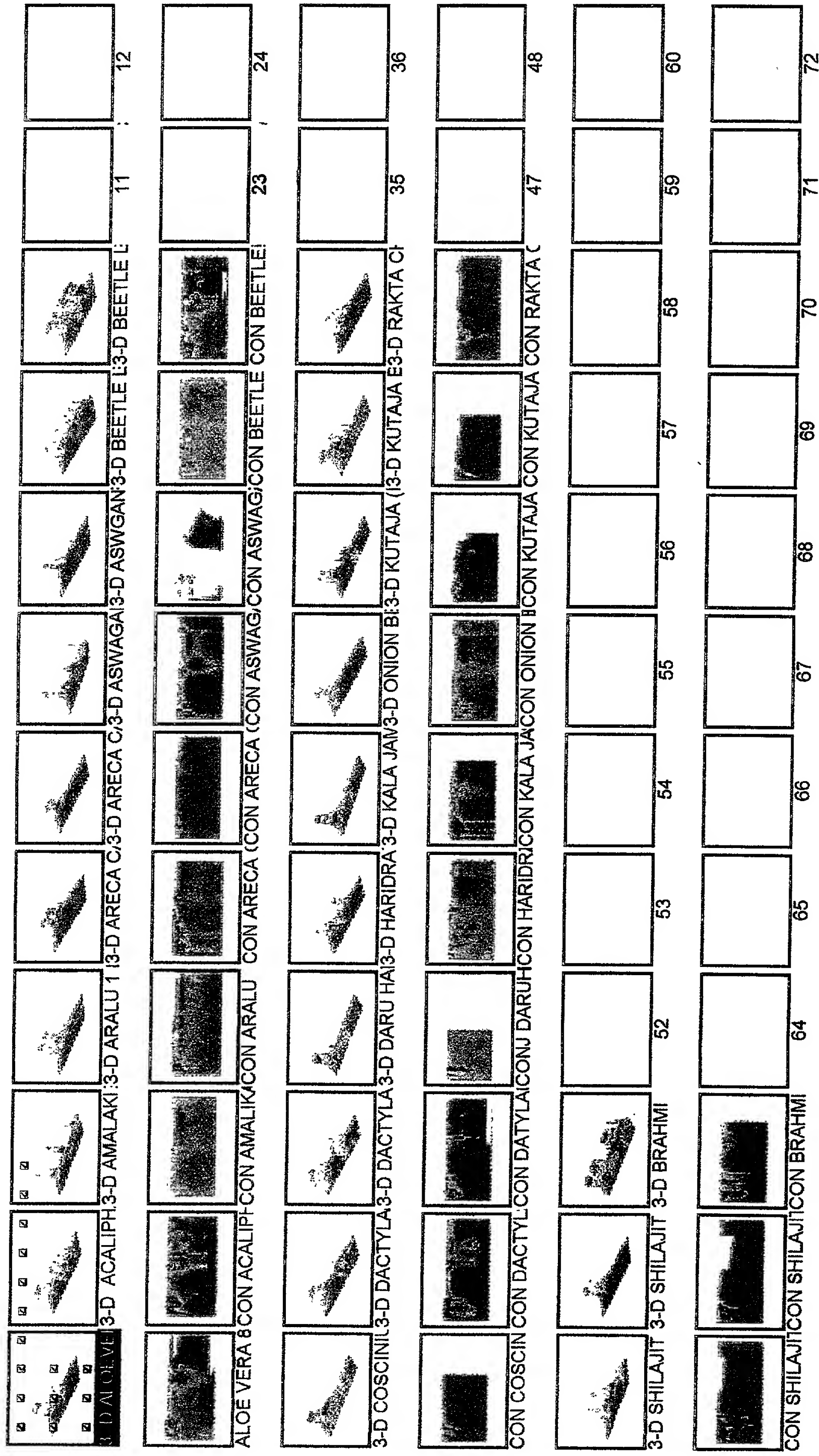


Figure 108

Pitta	40
Pitta-Kaph.	30
Kapha	20
Kapha-Vat.	10



**Figure 109**

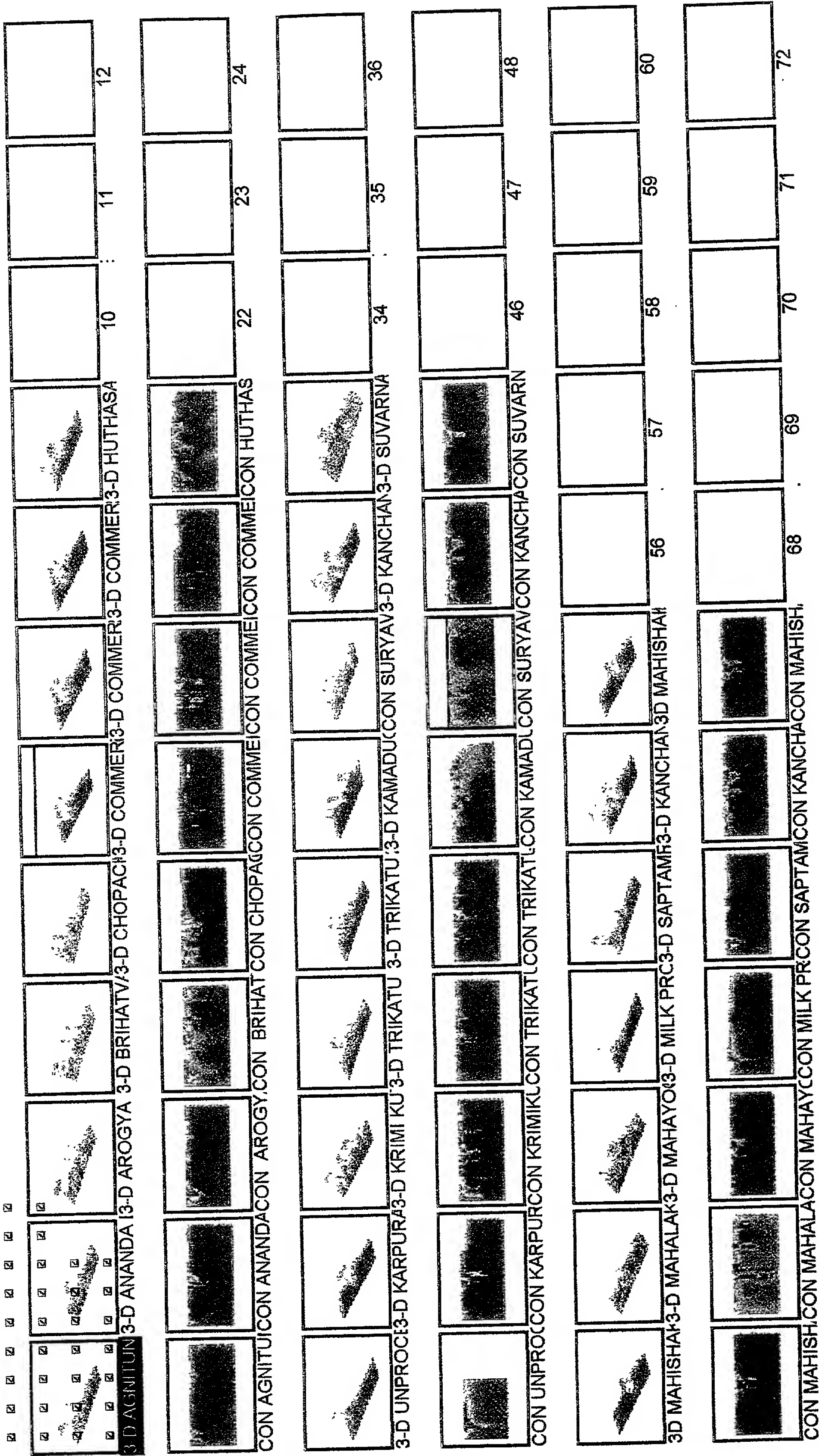


# C:\WINDOWS\DESKTOP\Director files\HERBAL FORMULATIONS

Fri, Sep 22, 2000

3-D AGNITU  
3-D ANANDA  
3-D AROGYA  
3-D BRIHATV  
3-D CHOPAC  
3-D COMMER  
3-D COMMER  
3-D HUTHASA

Figure 110

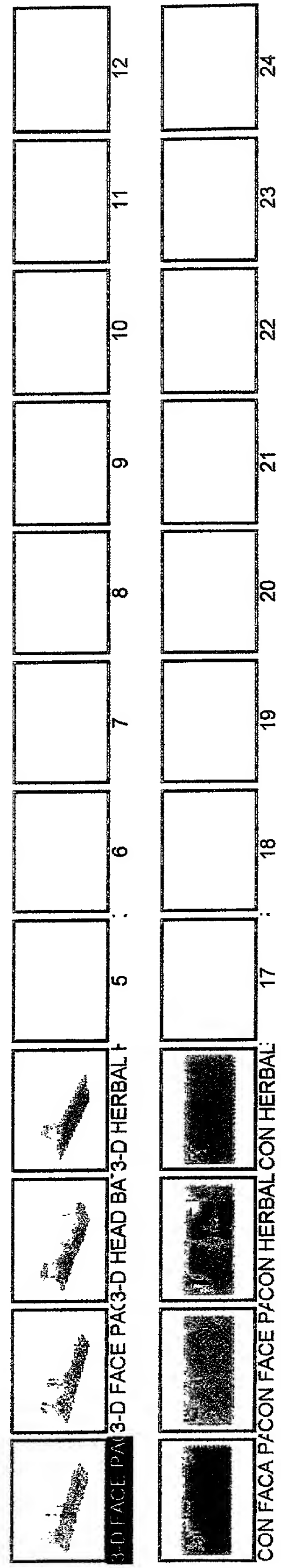


These will help the industry to monitor their product profile for the market and also for proper standardization to prepare a formulation.

C:\WINDOWS\DESKTOP\Director files\COMMERCIAL SAMPLES

Fri, Sep 22, 2000

Figure 111



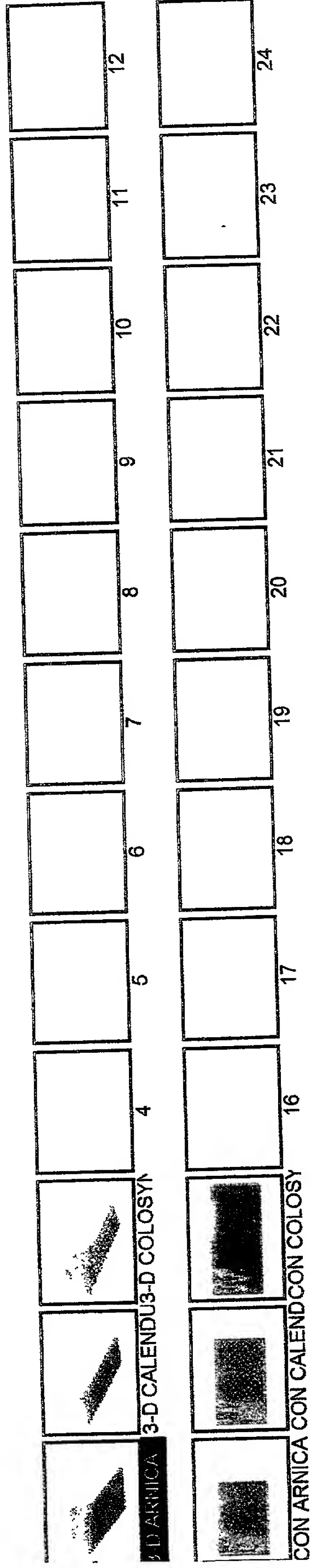
Example for adulterated cosmetic samples.



C:\WINDOWS\DESKTOP\Director files\HOMEO MEDICINES

Fri, Sep 22, 2000

**Figure 112**

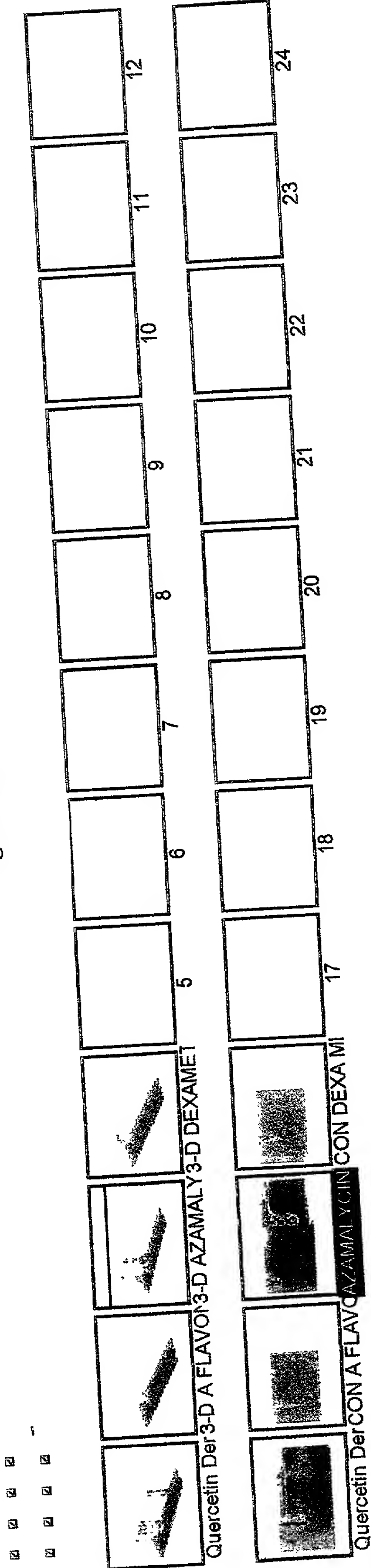


**CON ARNICA CON CALEND CON COLOSY**

The fingerprint of Mother tincture only were done. They can be done to the level of femto gram level as the PDA detectives are very sensitive. Hence dilution can also be fingerprinted.

Fri, Sep 22, 2000

C:\WINDOWS\DESKTOP\Director files\ISOLATED COMPOUNDS  
**Figure 113**



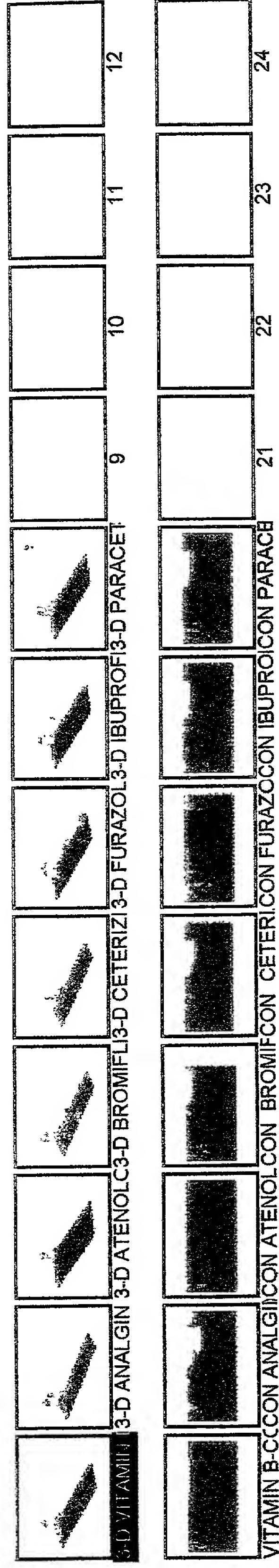
This helps to know the purity after isolation and to know the UV spectra of an unknown molecule.

C:\WINDOWS\DESKTOP\Director files\ALLOPATHIC MEDICINES

Fri, Sep 22, 2000

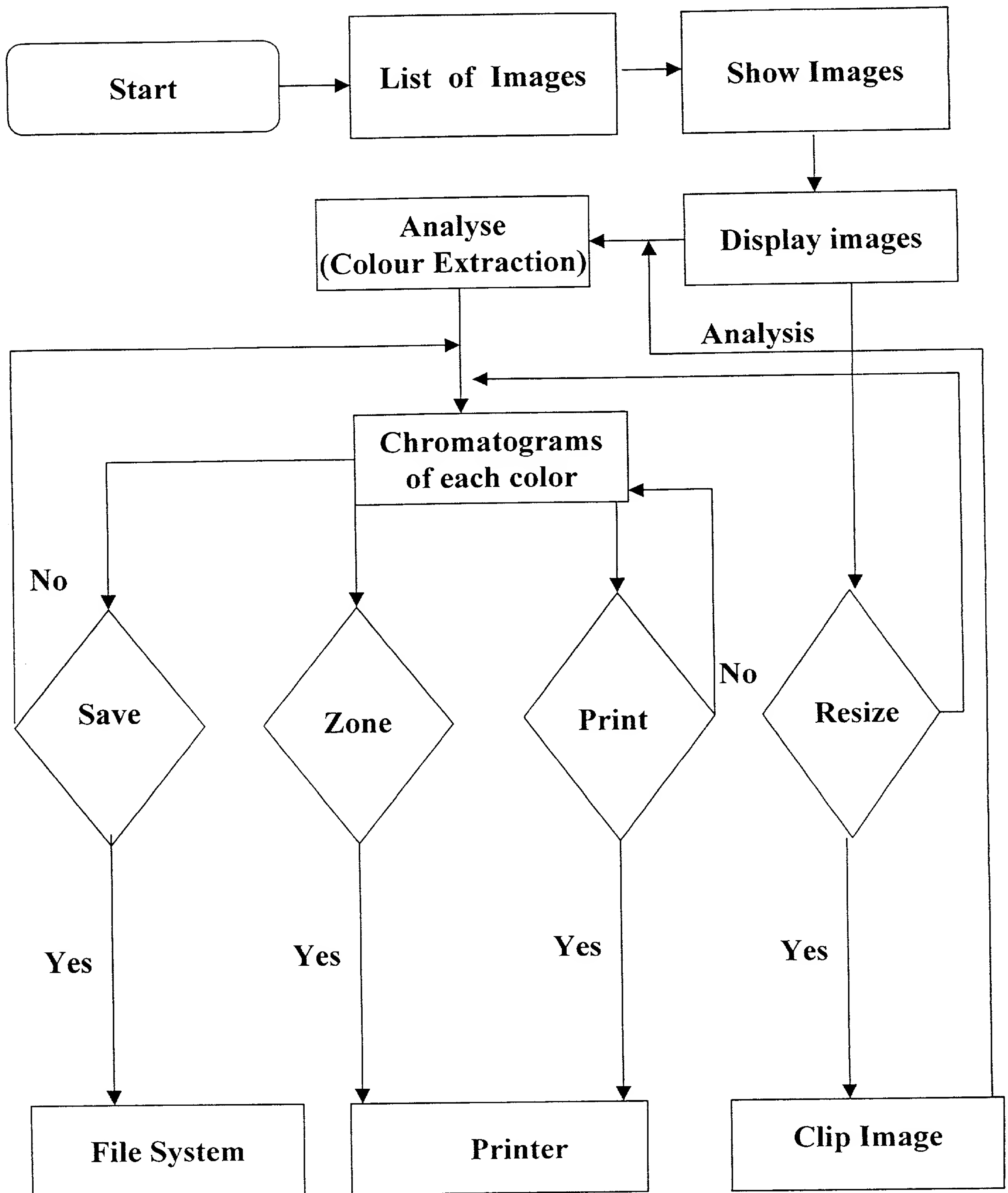
[illegible]

Figure 114



This method can be used for all allopathic medicines for chemical and therapeutic standardization.

Figure 115



OPERATIONAL SEQUENCE OF SOFTWARE